MARYLAND DEPARTMENT OF THE ENVIRONMENT
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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

Kathy M. Kinsey
Deputy Secretary

OCT 17 2011

Mr. Shawn Garvin
Regional Administrator (3RA00)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2023

Dear Mr. Garvin:

The purpose of this letter is to submit Maryland's Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard (SIP # 11-08). The Maryland Department of the Environment certifies that identical electronic and hard copies of this SIP are enclosed. This SIP identifies the regulations Maryland has adopted to comply with the Clean Air Act requirements for RACT for the 0.08 ppm 8-hour ozone National Ambient Air Quality Standard (NAAQS) adopted in 1997. It supersedes SIP #06-07, submitted on September 12, 2006, which Maryland is withdrawing. Please replace SIP #06-07 in its entirety with the attached SIP # 11-08.

A public hearing for this submission was held in Baltimore, Maryland on September 27, 2011. All required administrative procedures were followed throughout the hearing process. If you have any questions regarding this submission, please feel free to contact Mr. George (Tad) S. Aburn, Jr., Director of the Air and Radiation Management Administration, at 410-537-3255, toll-free 1-800-633-6101 or via email at gaburn@mde.state.md.us.

Very truly yours,

Robert M. Summers, Ph.D.
Secretary

Enclosures

cc: Diana Esher, Director, Air Protection Division, USEPA Region III
Jacqueline Lewis, Environmental Engineer, USEPA Region III
George (Tad) S. Aburn, Jr., Director, Air and Radiation Management Administration
Diane Franks, Manager, Air Quality Planning Program

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State of Maryland 8-Hour Ozone Reasonably Available Control Technology (RACT) State Implementation Plan

SIP Number: 11-08

2011 Revision to SIP Number 06-07

Date: October 4, 2011

Prepared for:

U.S. Environmental Protection Agency

Prepared by:

Maryland Department of the Environment

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1. Introduction

This document consists of Maryland's State Implementation Plan (SIP) Revision developed for the purpose of meeting the Reasonably Available Control Technology (RACT) requirements set forth by the Clean Air Act (CAA), as the requirements apply to the 0.08 ppm 8-hour ozone National Ambient Air Quality Standard (NAAQS). This document is hereafter referred to as "Maryland's 8-hour Ozone RACT SIP", or simply as "the RACT SIP." This document is a revised and updated copy of the RACT SIP that Maryland submitted, in 2006, for the entire state.

1.1. Background and Requirements

Ground level ozone, one of the principal components of "smog," is a serious air pollutant that harms human health and the environment. High levels of ozone can damage the respiratory system and cause breathing problems, throat irritation, coughing, chest pains, and greater susceptibility to respiratory infection. High levels of ozone also cause serious damage to forests and agricultural crops, resulting in economic losses to logging and farming operations. On April 30, 2004, EPA designated 126 areas of the country as "nonattainment" under the 8-hour ozone NAAQS. Maryland has three moderate nonattainment areas: the Baltimore Nonattainment Area; the Washington D.C. Nonattainment Area; and the Philadelphia Nonattainment Area, which includes Cecil County, Maryland. Kent and Queen Anne's Counties, located on the Eastern Shore of Maryland, were classified as a marginal nonattainment area. They have since been redesignated as attainment. In addition, Washington County, Maryland was classified as a basic nonattainment area, as Washington County is part of the Early Action Compact program. Washington County has also since been redesignated as attainment. All other remaining Maryland Counties are part of the Ozone Transport Region (OTR). Please reference Figure 1 and Figure 2 below.

FIGURE 1: MARYLAND'S 8-HOUR OZONE NONATTAINMENT AREAS, 2004

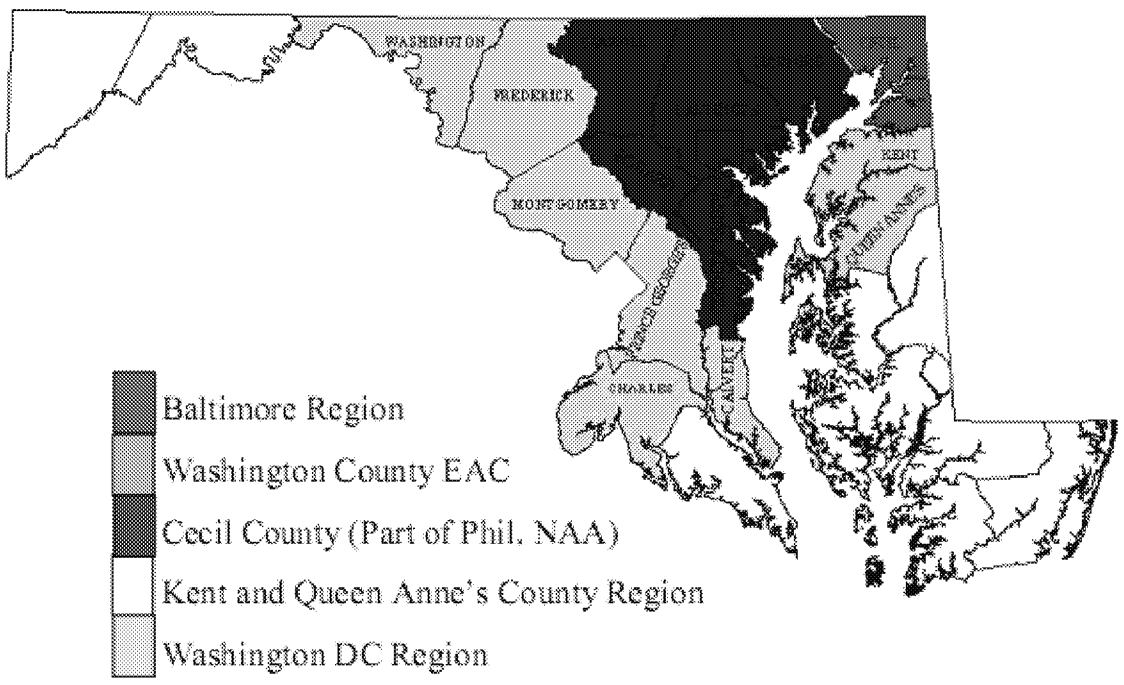
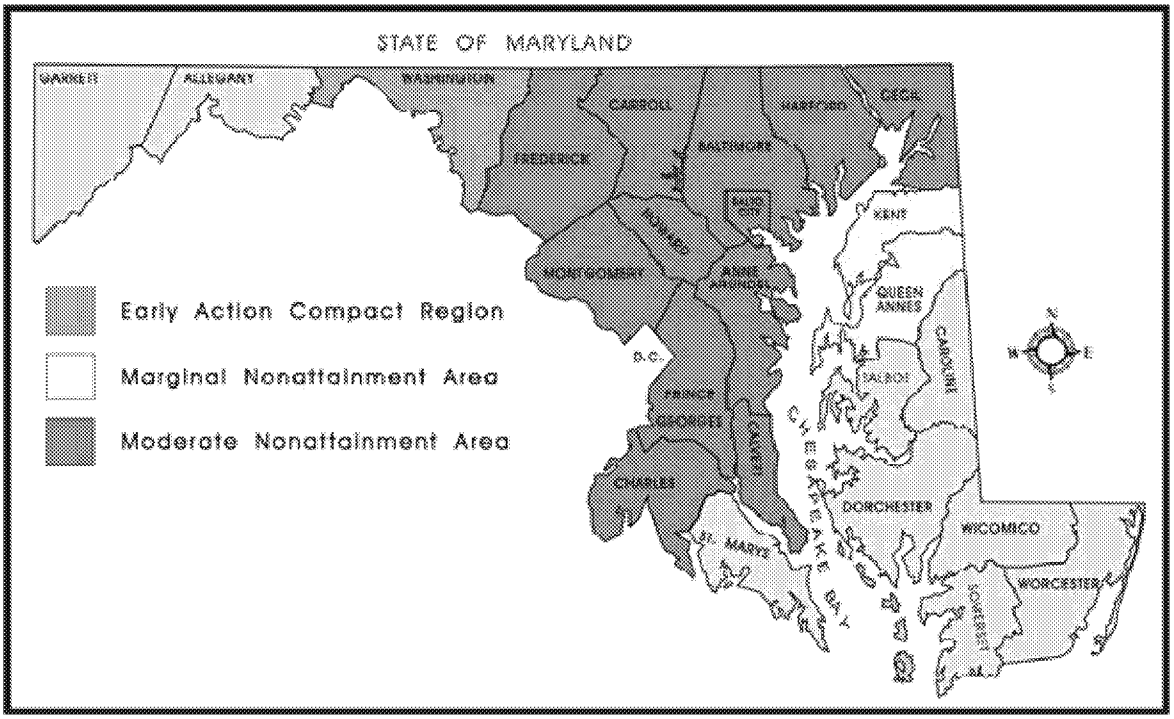


FIGURE 2: 8-HOUR OZONE CLASSIFICATIONS FOR NONATTAINMENT AREAS IN MARYLAND, 2004



Maryland has retained its major source levels at 25 tons per year for VOC and NO_x sources in the Baltimore, Washington, DC, and Philadelphia nonattainment areas. It has retained its major source levels at 50 tons per year for VOC and 100 tons per year for NO_x in all remaining Maryland counties. These major source thresholds were established when these metropolitan areas were classified as "severe" under the 1-hour ozone standard although these areas are now classified as "moderate." The thresholds for the rest of the counties in Maryland are consistent with CAA requirements for the Northeast Ozone Transport Region (OTR).

Ozone is generally not directly emitted to the atmosphere; rather it is formed in the atmosphere by photochemical reactions between volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. Consequently, in order to reduce ozone concentrations in the ambient air, the CAA requires all nonattainment areas to apply controls on VOC/NO_x emission sources to achieve emission reductions. Among effective control measures, the Reasonably Available Control Technology controls are a major group for reducing VOC and NO_x emissions from stationary sources.

The U.S. Environmental Protection Agency (EPA) has defined RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility" (44 FR 53761 and 53762, September 17, 1979). Section 182 of the CAA sets forth two separate RACT requirements for ozone nonattainment areas. The first requirement, contained in Section 182(a)(2)(A) of the CAA, and referred to as "RACT fix-up," requires the correction of RACT rules for which EPA identified deficiencies before the CAA was amended in 1990. Maryland currently has no deficiencies to correct under this section of the CAA. The second requirement, established in

Section 182(b)(2) of the CAA, applies to moderate or worse ozone nonattainment areas around the country. It requires these areas to implement RACT controls on all sources and source categories that are covered by a Control Technique Guideline (CTG) document issued by EPA prior to the enactment of the Clean Air Act Amendments of 1990 or since then, and on all other major stationary VOC emissions sources, referred to as "non-CTG sources." Under CAA Section 184(b)(1)(B), requirements comparable to those established under Section 182(b)(2) are applicable to all areas in ozone transport regions. Under Section 182(f), the CAA establishes that Subpart 2 requirements applicable to major stationary sources of VOCs, such as RACT requirements under Section 182(b)(2), are also applicable to major stationary sources of NO_x. Under Section 183 of the CAA, EPA was required to issue by certain timeframes several guidance documents that would help states meet the requirements of Section 182(b)(2). This requirement upon EPA includes developing (1) CTG documents for control of VOC emissions from stationary sources, and (2) Alternate Control Techniques (ACT) documents for controls of VOC and NO_x emissions from stationary sources.

Accordingly, EPA initially issued three groups of CTG documents: Group I, issued before January 1978 including 12 CTGs; Group II, issued in 1978 including 11 CTGs; and Group III, issued in the early 1980s with 5 CTGs. These established a "presumptive norm" for RACT for various categories of VOC sources. Since the early 1980s, the EPA has issued over a dozen additional CTG documents for VOC sources, and the EPA has also issued over a dozen ACTs for various categories of VOCs and NO_x sources.

All published CTG and ACT documents, along with other documentation, are listed in Section 6 of this document. In general, states meet the CAA RACT requirements by imposing controls that meet the requirements established in final CTG documents. Information in ACT documents is also available to states to consider as they establish controls on relevant VOC and NO_x sources in their moderate or worse nonattainment areas. In areas with continuing nonattainment problems, such as the Baltimore Nonattainment Area, more stringent controls than those in the CTGs have been adopted as RACT or as beyond RACT.

Throughout the State, Maryland has implemented numerous RACT controls to meet the CAA RACT requirements. These RACT controls were promulgated in the Code of Maryland Regulations (COMAR) 26.11.13, "Control of Gasoline and Volatile Organic Compound Storage and Handling"; COMAR 26.11.19, "Volatile Organic Compounds from Specific Processes"; and 26.11.09.08, "Control of NO_x Emissions for Major Stationary Sources."

Maryland has also implemented controls necessary to meet the requirements of the Federal NO_x SIP Call (40 CFR 51.121). Maryland promulgated this control program in COMAR 26.11.29, "NO_x Reduction and Trading Program" and COMAR 26.11.30, "Policies and Procedures Relating to Maryland's NO_x Reduction and Trading Program." See 66 FR 1866, January 10, 2001, for EPA's final rule approving the Maryland SIP revision that consisted of the adoption of COMAR 26.11.29 and 26.11.30.

When EPA passed the Clean Air Interstate Rule (CAIR) and effectively repealed the NO_x SIP Call, Maryland revised its regulations to maintain the requirements of the NO_x SIP Call. Currently, Maryland meets the NO_x RACT requirements through COMAR 26.11.29.03, "Emission Reduction Requirements for Portland Cement Manufacturing Plants" and 26.11.29.05, "Emission Reduction Requirements for Stationary Internal Combustion Engines at Natural Gas Pipeline Compression Stations." These regulations ensure that affected cement manufacturing facilities and stationary

internal combustion engines achieve RACT level reductions because they meet the NO_x SIP Call requirements of at least a 30 percent and 82 percent reduction, respectively, from uncontrolled levels (70 FR at 71653, November 29, 2005). Also, COMAR 26.11.14.07, which Maryland adopted in 2010, addresses previous NO_x SIP Call requirements related to Kraft Pulp Mills.

1.2. Responsibilities

The agency with direct responsibility for preparing and submitting this document is the Maryland Department of the Environment (MDE), Air and Radiation Management Administration (ARMA), Air Quality Planning Program, managed by Ms. Diane L. Franks, Program Manager and Brian J. Hug, Deputy Program Manager.

2. Certification of VOC and NO_x RACT Requirements

Maryland is certifying that it meets the CAA RACT requirements for Maryland major sources for the 8-hour ozone standard. Maryland has retained its major source levels at 25 tons per year for VOC and NO_x sources in the Baltimore, Washington, DC, and Philadelphia (Cecil County, Maryland) nonattainment areas. These major source thresholds are consistent with the areas that were classified as "severe" in the state although these areas are now classified as "moderate." Major source levels remain at 50 tons per year for VOC and 100 tons per year for NO_x in all remaining Maryland counties which are part of the Ozone Transport Region.

Maryland is also certifying through this SIP that, except as provided for herein, Maryland meets the CAA RACT requirements for the 50 TPY non-CTG major VOC sources and for 100 TPY NO_x sources, and that all CTG-covered categories are addressed at the cut-off level set in the CTG (or in "Issues Related to VOC Regulation Cutpoints, Deficiencies and Deviations, Clarification to Appendix D of November 24, 1987 Federal Register," dated May 25, 1988 (also known as the "Blue Book") for those CTG categories for which the original CTG set no cut-off).

This certification is based on a combination of (1) certification that previously adopted RACT controls in Maryland's SIP that were approved by EPA under the 1-hour ozone NAAQS are based on the current availability of technically and economically feasible controls and that they represent RACT for 8-hour implementation purposes, and (2) the adoption of new or more stringent regulations that represent RACT control levels. The requirements in Table 1 and Table 2 are certified as RACT with respect to the 0.08 ppm O_3 NAAQS.

2.1. Certification of VOC RACT Requirements

Code of Maryland Regulations (COMAR) 26.11.06, 26.11.10, 26.11.11, 26.11.13, 26.11.14, 26.11.19, and 26.11.24 represent Maryland's VOC RACT controls that were implemented and approved into the Maryland SIP under the 1-hour ozone NAAQS. Maryland also uses COMAR 26.11.06.06 to achieve significant reductions from unique VOC sources. Identification and certification of these VOC RACT controls is provided in Table 1 below. Explanations for each column of Table 1 are as follows:

- Column 1: Identifies each section of COMAR 26.11.06, 26.11.10, 26.11.11, 26.11.13, 26.11.14, 26.11.19, and 26.11.24 which contain Maryland's VOC RACT provisions. COMAR 26.11.13 and 26.11.19 required major VOC emitting sources to comply with the relevant provisions by May 31, 1995. Under the 1-hour ozone standard, the VOC RACT regulation defines a major VOC emitting source as a stationary source that emits VOCs greater than or equal to 25 TPY in Maryland's severe nonattainment areas (Baltimore, Washington D.C., and Cecil County, Maryland), and 50 TPY in the remaining counties. Under the 8-hour ozone standard, the same major source thresholds apply and the stringency of the RACT regulations are reviewed for certification as RACT for the 8-hour ozone NAAQS.

- Column 2: Explains RACT control applicability and requirements.

- Column 3: Identifies the underlying basis for the RACT determination.

- Column 4: Identifies all CTG categories for which there are no facilities in that state and submits a Negative Declaration stating that there are no such facilities.

- Column 5: Identifies the SIP number and the date in which the final rule appeared in the Federal Register.

Maryland Small Source Requirement for VOCs

In regulation COMAR 26.11.02, "Permits, Approvals and Registration," Maryland has established a comprehensive review process for minor sources. Through keeping the Maryland exemption threshold extremely low, all other sources are included in the review process. The affected minor sources emit well below the major source and CTG threshold. The requirements of COMAR 26.11.02 ensure that all major and CTG sources are controlled by RACT at a minimum.

Table 1. Maryland VOC RACT Regulations under the 8-Hour Ozone NAAQS

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declaration	SIP # Date Adopted Date EPA Approved
COMAR 26.11.06 **Regulation .06** General Emission Standards, Prohibitions, and Restrictions Volatile Organic Compounds	Applies to VOC emitting installations above 20 pounds per day. Emissions are required to be controlled by 85% or more.	CAA Section 182(b)(2)(C).		SIP # 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP # 91-02 Adopted 3/9/1991 Approved 11/29/1994 SIP # 93-05 Adopted 3/26/1993 Approved 2/12/2001 SIP # 98-05 Adopted 6/5/1997 Approved 5/7/2001 SIP # 99-07 Adopted 4/11/1995 Approved 2/27/2003
COMAR 26.11.10 **Regulations .01, .06, .07** Control of VOCs from Iron and Steel Production Installations	Establishes a standard for VOC emissions from the sinter plant. Requires installation of a CEM system, use of a "good management practices" manual.	COMAR 26.11.19.02G requires major VOC sources to comply with RACT. There is one integrated steel mill in Maryland. Its total VOC emissions exceed the major source threshold.		SIP# 01-01 Adopted 12/5/2000 Approved 11/7/01
COMAR 26.11.11 Control of Petroleum Products Installations, including Asphalt Paving and Asphalt Concrete Plants	Applies to the manufacture, mixing, storage, use, and application of cutback and emulsified asphalts. Restricts cutback asphalt during the ozone season without approval.	CTG: Control of Volatile Organic Compounds from Use of Cutback Asphalt, EPA-450/2-77-037, December 1977. (Group I)		SIP# 81-01 Adopted 4/8/81 Approved 5/11/82 SIP# 83-03 Adopted 6/24/83 Approved 9/10/84 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92 SIP# 93-05 Adopted 3/26/93 Approved 1/6/95

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.13 Regulation .01B(4) amended definition of "Gasoline"	Applies to sources that store and handle JP-4, a jet fuel.	JP-4 is stored and handled at major sources of VOC. COMAR 26.11.19.02G requires the application of RACT to operations at major sources.		SIP # 98-07 Adopted 7/18/97 Approved 12/22/98
COMAR 26.11.13 Regulations .01B(6-1), (13) Definitions of "Marine Vessel" and "Vapor Control System"	Defines "Marine vessel" and "vapor control system".			SIP# 07-12 Adopted 9/12/07 Approved 7/18/08
COMAR 26.11.13 Regulation .03A Large Storage Tanks - Closed Top Tanks	Applies to gasoline liquid storage tanks with fixed roofs and with capacity of 40,000 gallons or greater. Covers sealing standards for a covered storage tank, openings, connection between roof edge and tank wall and vents.	CTG: Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed Roof Tanks, EPA-450/2-77-036, December 1977. (Group I)		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994
COMAR 26.11.13 Regulation .03 B Large Storage Tanks - Open Top tanks	Applies to gasoline storage tanks with external floating roofs and with capacity of 40,000 or greater. Incorporates sealing standards for a storage tank, including its openings, its connection roof and tank wall, all seal closure devices, vents, and emergency roof drains.	CTG: Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks, EPA-450-2/78-047, December 1978. (Group II).		SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.13 Regulation .04 A Loading Operations – Bulk Gasoline Terminals	Applies to all the loading racks at any bulk gasoline terminal that deliver liquid product into gasoline tank trucks. A vapor collection and control system designed to collect and destroy the organic compound liquids or vapors displaced from gasoline tank trucks during product loading is required and various other equipment and operational requirements are also included.	CTG: Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77-035, December, 1977. (Group I)		SIP# 92-01 Adopted 3/9/1991 Approved 1/6/1995 SIP# 93-02 Adopted 1/18/93 Approved 1/6/1995 SIP# 93-05 Adopted 3/26/1993 Approved 1/6/1995
COMAR 26.11.13 Regulation .04 B Loading Operations – Bulk Gasoline Plants	Applies to all unloading, loading, and storage operations at bulk gasoline plants. Requires the use of vapor balance, and sets standards for equipment and work practices.	CTG: Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77-035, December, 1977. (Group I)		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982
COMAR 26.11.13 Regulation .04 C Loading Operations – Small Storage Tanks	Applies to storage tanks with capacity greater than 2000 gallons but less than 40,000 gallons and requires Stage I vapor recovery.	CTG: Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975. (Group I)		SIP# 93-05 Adopted 3/26/1993 Approved 1/6/1995

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.13 **Regulation .04 C** Loading Operations – Small Storage Tanks	Increases the gasoline storage tank capacity affected by Stage I vapor recovery from the previous 250 gallon capacity to greater than 2,000 gallons.	The Department conducted a survey of gasoline storage tanks with a capacity between 250 and 2,000 gallons and determined that the total gasoline throughput from all tanks in this size range is less than 2 percent of the total gasoline throughput in the State. Therefore the application of Stage I to small tanks has minimal environmental benefit.		SIP # 98-06 Adopted 7/18/97 Approved 9/2/98
COMAR 26.11.13 **Regulation .05** Gasoline Leaks from Tank Trucks	Applies to gasoline tank trucks and requires compliance with standards for vapor-tightness.	CTG: Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals, EPA-450/2-77-026, December 1977. (Group I) CTG: Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051, December 1978. (Group II)		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982 SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994 SIP# 93-02 Adopted 1/18/1993 Approved 9/7/1994
COMAR 26.11.13 **Regulation .08** Control of VOC Emissions from Marine Vessel Loading	Requires owners or operators of barge loading facilities in the Baltimore/Washington areas to reduce captured VOC vapors by 90 percent if emissions from the barge loading are ≥ 25 TPY. In rest of State, controls are required if emissions are ≥ 50 TPY.	The Dept. developed this RACT requirement because although EPA had developed a MACT standard for this source category, the liquid throughput requiring controls was very high.		SIP# 07-12 Adopted 9/12/07 Approved 7/18/08

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.14 Regulations .01 and .06 Control of VOC Emissions from Kraft Pulp Mills	Establishes RACT standards for VOC emissions from several process installations at MD's one mill including the condensate steam stripper, the digester blow tank system, the evaporators, brown stock washers, bleach rooms and paper machines, recovery boilers, smelt dissolving tanks, and other miscellaneous operations.	COMAR 26.11.19.02G requires major VOC sources to comply with RACT. The one kraft pulp mill in Maryland is a major VOC source.		SIP# 01-02 Adopted 12/13/00 Approved 11/7/01 SIP# 01-11 Adopted 9/25/01 Approved 11/7/01
COMAR 26.11.19 Regulations .01B(4) and .02 G Control of Major Stationary Sources of Volatile Organic Compounds. Maryland's generic major source VOC RACT regulation	Applies to all major stationary sources not subject to any VOC emission standard in COMAR 26.11.11, 26.11 .13, or Regulations .02 - .31 of COMAR 26.11.19.	Maryland RACT analysis.		SIP # 91-02 Adopted 3/9/1991 Approval 3/25/09 SIP # 93-05 Adopted 3/26/1993 Approval 3/25/09 SIP # 95-14 Adopted 4/13/1995 5/13/98
COMAR 26.11.19 Regulation .02 I Good Operating Practices, Equipment Cleanup, and VOC Storage.	Applies to all installations located at premises that are subject to any VOC requirement in COMAR 26.11.19. Requires sources to implement such things as: training of operators on good operating and maintenance procedures to minimize VOC emissions; storing VOC or VOC-containing materials in closed containers; using available spray gun cleaning and application technology to eliminate or minimize VOC emissions; and equipping VOC storage tanks with conservation vents and vapor balance systems.	Needed to establish good operating practices to control VOC emissions from small VOC installations for which specific requirements have not been established.		SIP# 01-14 Adopted 11/6/01 Approved 2/3/03

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 **Regulation .03** Automotive Light Duty Truck Coating	Apply to automobile or light-duty truck assembly plants, and any can, coil, paper, fabric, or vinyl coating unit. Establish coating VOC content limits specific to operations.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977. (Group I)		SIP# 83-03 Parts A&B Adopted 6/24/1983 Approved 9/10/1984 SIP# 98-01 Adopted 8/18/1997 Approved 11/5/1998
COMAR 26.11.19 **Regulation .04** Can Coating	Apply to automobile or light-duty truck assembly plants, and any can, coil, paper, fabric, or vinyl coating unit. Establish coating VOC content limits specific to operations.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977. (Group I)		SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92
COMAR 26.11.19 **Regulation .05** Coil Coating	Apply to automobile or light-duty truck assembly plants, and any can, coil, paper, fabric, or vinyl coating unit. Establish coating VOC content limits specific to operations.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977. (Group I)		SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92
COMAR 26.11.19 **Regulation .06** Large Appliance Coating	Requires use of compliant coatings with a VOC content of less 2.8 lbs/gal.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume V: Surface Coating of Large Appliances, EPA-450/2-77-034, December 1977. (Group I)		SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 **Regulation .07** Paper, Fabric, Vinyl, and Other Plastic Parts Coating	Apply to automobile or light-duty truck assembly plants, and any can, coil, paper, fabric, or vinyl coating unit. Establish coating VOC content limits specific to operations.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977. (Group I)		SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994 SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994 SIP# 93-02 Adopted 1/18/1993 Approved 9/7/1994 SIP# 95-11 Adopted 5/5/1995 Approved 9/2/1997 SIP# 95-17 Adopted 5/5/1995 Approved 9/2/1997 SIP# 99-04 Adopted 8/6/1997 & 8/4/1998 Approved 1/14/2000
COMAR 26.11.19 **Regulation .07-1** Solid Resin Decorative Surface Manufacturing	Requires control of 75 % emissions from solid resin decorative surface manufacturing operation with the help of a control device.	Maryland RACT analysis.		SIP# 99-02 Adopted 5/20/1998 Approved 6/17/1999
COMAR 26.11.19 **Regulation .08** Metal Furniture Coating	Requires use of compliant coatings with a VOC content of less than 3.0 lb/gal.	CTG document: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume III: Surface Coating of Metal Furniture, EPA-450/2-77-032, December 1977.		SIP # 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-01B Recodification only from 10.18 to 26.11 on 7/1/87 Approved 11/3/92

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 Regulation .09 Control of VOC Emissions from Cold and Vapor Degreasing	Maryland RACT analysis.	CTG: Control of Volatile Organic Emissions from Solvent Metal Cleaning, EPA-450/2-77-022 November 1977. (Group I) ACT Document - Halogenated Solvent Cleaners, EPA-450/3-89-030, August 1989.Maryland RACT analysis.		SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 92-01 Adopted 1/20/1992 Approved 9/7/1994 SIP# 95-09 Adopted 5/12/1995 Approved 8/4/1997
COMAR 26.11.19 Regulation .10 Flexographic and Rotogravure	This regulation applies to any packaging rotogravure, publication rotogravure, or flexographic printing process at a facility. The rule establishes the limits of VOC contents in coatings and inks used in the covered facilities, and specify standards for control devices for various printing processes.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VIII: Graphic Arts-Rotogravure and Flexography, EPA-450/2-78-033, December 1978. (Group II)		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982 SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994 SIP# 93-05 Adopted 3/26/1993 Approved 1/6/1995 SIP# 95-11 Adopted 5/5/1995 Approved 9/2/1997
COMAR 26.11.19 Regulation .11 Lithographic Printing	Applies to offset lithographic printing, including heatset and non-heatset web, non-heatset sheet-fed, and newspaper facilities. A 90 percent reduction of VOC emissions (by weight) from the press dryer exhaust vent of heatset printing operations, limits the alcohol content in fountain solutions, and establishes standards for cleaning printing equipment.	CTG: Control of Volatile Organic Compound Emissions from Offset Lithographic Printing (CTG Draft), EPA-453/D-95-001, September 1993. ACT Document: Offset Lithographic Printing, EPA-453/R-94-054, June 1994.		SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994 SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994 SIP# 95-11 Adopted 5/5/1995 Approved 9/2/1997

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 **Regulation .12** Dry Cleaning Installations	Applies to petroleum dry cleaning facilities that consume 6000 gallons or more petroleum solvent per year. The rule establishes emission limits or reduction requirements for emissions, inspection, repair and reporting requirements for dryers, filtration systems and other equipment.	CTG: Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners, EPA-450/3-82-009, September 1982. (Group III)		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982 SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-02 Adopted 4/21/1989 Approved 11/29/1994 SIP# 98-02 Adopted 8/18/1997 Approved 9/2/1998 SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994
COMAR 26.11.19 **Regulation .13** Miscellaneous Metal Coating	Applies to any miscellaneous metal parts coating operation , and allows coatings with a VOC content in the range of 3.0 to 4.3 lb/gal.	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VI: Surface Coating of Miscellaneous Metal Parts and Products, EPA-450/2-78-015, June 1978. (Group II)		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982 SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994
COMAR 26.11.19 **Regulation .13-1** Aerospace Coating Operations	Applies to aerospace coating operations and emission limits for coating types range from 1.3 to 3.5 pounds per gallon. For over 50 specialty coatings the standards go up to 10 lbs/gal.	40 CFR PART 63 SUBPART GG Aerospace Manufacturing and Rework and CTG EPA-453/R-97-004, October 1996.		SIP# 00-10 Adopted 9/11/2000 Approved 11/7/2001 SIP# 01-10 Adopted 9/25/2001 Approved 11/7/2001
COMAR 26.11.19 **Regulation .13-2** Brake Shoe Coating Operations	Applies to brake shoe coating operations establishes coating standards and equipment cleanup standards and requires high transfer efficiency methods for application of coating.	Maryland RACT analysis.		SIP# 99-03 Adopted 8/4/1998 Approved 6/17/1999

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 **Regulation .13-3** Control of Volatile Organic Compounds from Structural Steel Coating Operations	Coating standards are established for structural steel operations which can only be exceeded from November to March by 20 %. Minimizes VOC emissions from cleaning solvents.	Maryland RACT analysis.		SIP# 99-01 Adopted 6/5/1998 6/17/1999
COMAR 26.11.19 **Regulation .14** Manufacture of Synthesized Pharmaceutical Products	Establishes standards for the control of emissions from reactor, distillation operation, crystallizer centrifuge and vacuum dryer. Control efficiency of 90 percent or more. Vapor balance systems are also required.	CTG: Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, EPA-450/2-78-029, December 1978 (Group II).		SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982 SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994
COMAR 26.11.19 **Regulation .15** Paint, Resin and Adhesive and Adhesive Application	Applies to honeycomb core installation, footwear manufacturing and spiral tube winding and impregnating. Adhesive and resin standards are established for these operations.	Maryland RACT analysis.		SIP# 99-10 Adopted 3/2/1999 Approved 10/28/1999 SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994 SIP# 93-02 Adopted 1/18/1993 Approved 11/30/1993
COMAR 26.11.19 **Regulation .16** Control of VOC Equipment Leaks	Applies to operations that are subject to the requirements in COMAR 26.11.19 and without specific leak management	Maryland RACT analysis.		SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 Regulation .17 Control of Volatile Organic Compounds Emissions from Yeast Manufacturing	Applies to yeast manufacturing installation at a premises that has a potential to emit 25 tons or more per year of VOC. Sets emission standards based on the type of yeast fermenter. Requires continuous monitoring and reporting.	Maryland RACT analysis.		SIP# 95-04 Adopted 10/14/1994 and 5/12/1995 Approved 10/15/1997 SIP# 04-09 Adopted 5/19/2004 Approved 10/27/2004 SIP# 05-09 Adopted 8/23/2005 Approved 3/31/2006
COMAR 26.11.19 Regulation .18 Control of Volatile Organic Compound Emissions from Screen Printing and Digital Imaging.	Applies to screen printing operations on different substrates. The standards vary according to the substrate, type of printing and inks. Digital imaging and control device option is also included in the regulation.	Maryland RACT analysis.		SIP# 95-05 Adopted 10/14/1994 and 5/16/1995 Approved 10/15/1997 SIP# 99-05 Adopted 8/4/1998 Approved 6/17/1999 SIP# 02-04 Adopted 5/9/2002 Approved 1/15/2003
COMAR 26.11.19 Regulation .19 Control of Volatile Organic Compound Emissions from Expandable Polystyrene Operations	Applies to expandable polystyrene operations and control efficiency of 85 % is required for emissions from preexpander or combustion in a fire box.	Maryland RACT analysis		SIP 95-08 Adopted 6/9/1995 Approved 10/15/1997 SIP# 00-09 Adopted 9/11/2000 Approved 5/7/2001
COMAR 26.11.19 Regulation .20 Control of Landfill Gas Emissions from Municipal Solid Waste Landfill	Applies to existing MSW landfills that have a design capacity equal to or greater than 2,750,000 tons and 3,260,000 cubic yards of MSW. Gas collection and control system is required if the emissions are calculated to be greater than 55 tons per year.	MACT requirements under 40 CFR 60.752 and 40 CFR 60.755		111(d)# 99-09 Adopted 2/5/1998 and 3/2/1999 Approved 9/8/1999

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 **Regulation .21** Control of Volatile Organic Compounds from Bakery Ovens	Applies to an oven that has the potential to emit 25 tons or more. Controls are required based on predictive factors of 80 % or greater. The regulations also have provisions for the review and approval of innovative control technology.	Maryland RACT analysis.		SIP# 95-10 Adopted 6/9/1995 Approved 10/15/1997
COMAR 26.11.19 **Regulation .22** Control of Volatile Organic Compounds from Vinegar Generators	Applies to vinegar generation operation with emissions greater than 20 lbs/day. A scrubber-absorber system is required at 85 % or greater efficiency.	Maryland RACT analysis		SIP# 98-09 Adopted 7/15/1997 Approved 9/23/1999
COMAR 26.11.19 **Regulation .23** Control of VOC Emissions from Vehicle Refinishing	Applies to vehicle refinishing operations. Establishes coating , cleaning solvent and equipment standards	Alternative Control Techniques document: Reduction of Volatile Organic Compound Emissions from Automobile Refinishing, EPA-450/3-88-009, October 1988. ACT: Automobile Refinishing, EPA-453/R-94-031, April 1994.		SIP# 95-03 Adopted 5/1/1995 Approved 8/4/1997
COMAR 26.11.19 **Regulation .24** Control of VOC Emissions from Leather Coating	Applies to a person who owns or operates a leather coating operation at a premises with actual VOC emissions of 20 pounds or more per day. Establishes coating standard and provides alternative means of compliance by controlling 85 % or more emissions.	Maryland RACT analysis.		SIP# 98-08 Adopted 7/15/1997 Approved 9/23/1999

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 Regulation .25 Control of Volatile Organic Compounds From Explosives and Propellant Manufacturing.	Applies to existing equipment at a premise that has a potential to emit 25 tons or more of VOC per year from all explosives and propellant manufacturing equipment. Establishes control efficiency requirement of 85% or more overall.	Maryland RACT analysis.		SIP# 98-18 Adopted 7/15/1997 Approved 1/26/1999
COMAR 26.11.19 Regulation .26 Control of Volatile Organic Compound Emissions from Reinforced Plastic Manufacturing	Applies to reinforced plastic manufacturing operations if VOC emissions are 20 pounds or more per day. Requires the use of low styrene resin, high efficiency application equipment and low voc cleaning solvents.	Maryland RACT analysis.		SIP# 98-15 Adopted 7/18/1997 Approved 8/19/1999
COMAR 26.11.19 Regulation .27 Control of Volatile Organic Compound Emissions from Marine Vessel Coating Operations	Applies to marine vessel coating operations. Establishes over 20 coating standards, cleanup and record keeping requirements.	40 CFR PART 63 SUBPART II		SIP# 98-17 Adopted 9/12/1997 Approved 9/5/2001
COMAR 26.11.19 Regulation .28 Control of Volatile Organic Compound Emissions from Bread and Snack Food Drying Operations	Applies to bread drying operation that has a potential to emit VOC emissions of 25 tons or more per year. Requires control of 85 % efficiency with the help of a scrubber or an alternative control device.	Maryland RACT analysis.		SIP# 00-11 Adopted 9/11/2000 Approved 5/7/2001
COMAR 26.11.19 Regulation .29 Control of Volatile Organic Compound Emissions from Distilled Spirits Facilities	Applies to a distilled spirits facility that has a total potential to emit VOCs of 25 tons or more per year. Requires standards to be met for emptying barrels, cleaning of filters and filling of barrels.	Maryland RACT analysis.		SIP# 00-12 Adopted 9/11/2000 Approved 11/7/2001 SIP# 01-12 Adopted 9/25/2001 Approved 11/7/2001

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
COMAR 26.11.19 Regulation .30 Control of Volatile Organic Compound Emissions from Chemical Production and Polytetrafluoroethylene Installations	Applies to an organic chemical production installation or an inorganic chemical production installation with VOC emissions of 20 pounds or more per day. For emissions above 100 lbs/day, 90 % controls are required. Good operating practices apply if the emissions are less than 100 lbs/day.	Maryland RACT analysis.		SIP# 01-03 Adopted 12/6/2000 Approved 7/20/2001 SIP# 01-15 Adopted 11/6/2001 Approved 6/3/2003 SIP# 02-07 Adopted 10/3/2002 Approved 6/3/2003 SIP# 08-02 Adopted 3/17/2008 Pending EPA Action
COMAR 26.11.19 Regulation .31 Control of Volatile Organic Compound Emissions from Medical Device Manufacturing	Applies to medical device manufacturing installations that emit, or have the potential to emit, 100 pounds or more VOC/day that engage in the production of hypodermic products syringes, catheters, blood handling and other medical devices.	Maryland RACT analysis.		SIP# 06-04 Adopted 5/11/2006 Approved 1/11/2007
COMAR 26.11.24 Stage II Vapor Recovery at Gasoline Dispensing Facilities	Applies to facilities with average monthly throughput of 10,000 gallons or more. Requires regular inspection and testing of Stage II systems and includes record keeping and reporting.	CAA Section 182(b)(3).		SIP# 93-01 Adopted 1/18/1993 Approved 6/9/1994 SIP# 95-18 Adopted 4/7/1995 Approved 8/4/1997 SIP# 02-03 Adopted 3/14/2002 Approved 5/7/2003
N/A	There are no applicable sources in Maryland	CTG: Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984 (Group III).	YES	N/A

Maryland Regulation	RACT Rule Applicability and Requirements	RACT Basis/CTG	Negative Declara-tion	SIP # Date Adopted Date EPA Approved
N/A	There are no applicable sources in Maryland	CTG: Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978 (Group II)	YES	N/A
N/A	There are no applicable sources in Maryland	CTG: Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977 (Group I)	YES	N/A
N/A	There are no applicable sources in Maryland	CTG: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry, EPA-450/4-91-031, August 1993	YES	N/A
N/A	There are no applicable sources in Maryland	CTG: Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating), 61 FR-44050 8/27/96, August 1996.	YES	N/A
N/A	There are no applicable sources in Maryland	CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating of Insulation of Magnet Wire, EPA-450/2-77-033, December 1977 (Group I).	YES	N/A

Footnote to Table 1: Under COMAR 26.11.01.05-1, "General Administrative Provisions, Emissions Statements," major sources of NO_x and VOC located in Baltimore City and Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Kent, Montgomery, Prince George's and Queen Anne's counties with emissions that exceed 25 tons or more during a calendar year are required to report emissions.

Sources located in Allegany, Caroline, Dorchester, Garrett, St. Mary's, Somerset, Talbot, Washington, Wicomico, or Worcester counties with actual emissions of either VOC or NO_x from all installations and emitting 50 tons or more of VOC or 100 tons or more of NO_x during a calendar year are also required to report emissions.

The emissions statements from major sources have been required since 1993. Data in Appendix C shows the applicable RACT regulation and the emissions from these sources as reported in 2004.

2.2. Certification of NO_x RACT

Code of Maryland Regulations (COMAR) 26.11.09 represents Maryland's NO_x RACT controls that were implemented and approved into the Maryland SIP under the 1-hour ozone NAAQS. Certification of those RACT rules as RACT for the 8-hour ozone NAAQS appears in the analysis information following Table 2.

Maryland also implemented controls necessary to meet the requirements of the Federal NO_x SIP Call (40 CFR 51.121). This control program was previously promulgated in and more recently partially repealed from COMAR 26.11.29 and COMAR 26.11.30 which contained requirements for trading sources and non-trading sources. These requirements were recently relocated to COMAR 26.11.29.03 and 26.11.29.05 for the purpose of maintaining the requirements of the NO_x SIP Call and meeting the NO_x RACT requirement. They ensure that affected cement manufacturing facilities and stationary internal combustion engines achieve RACT level reductions because they meet the NO_x SIP Call requirements of at least a 30 percent and 82 percent reduction, respectively, from uncontrolled levels (70 FR at 71653, November 29, 2005). The only trading source that was not subsequently subject to a federal regional NO_x control program was a kraft pulp mill, and equivalent requirements for that source were recently adopted into COMAR 26.11.14.07.

Explanations for each column of Table 2 are below.

- Column 1: Identifies the source category under which major sources of NO_x exist in Maryland, and are therefore subject to RACT requirements.

- Column 2: Identifies each section of COMAR 26.11.09.08, 26.11.14, and 26.11.29, which contain Maryland's NO_x RACT provisions. See Appendix C for Maryland's List of RACT Major Sources. Also, note that under COMAR 26.11.01.05-1, "General Administrative Provisions, Emission Statements," major sources of NO_x and VOC located in Baltimore City and Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Kent, Montgomery, Prince George's and Queen Anne's counties with emissions that exceed 25 tons or more during a calendar year are required to report emissions.

  Sources located in Allegany, Caroline, Dorchester, Garrett, St. Mary's, Somerset, Talbot, Washington, Wicomico, or Worcester counties with actual emissions of either VOC or NO_x from all installations and emitting 50 tons or more of VOC or 100 tons or more of NO_x during a calendar year are also required to report emissions.

- Column 3: Identifies the SIP number and the date in which the final rule appeared in the Federal Register.

- Column 4: Provides a link to detailed information, below Table 2 in this document, about this RACT source category and its related COMAR regulations. This includes an overview of the source category and facilities in Maryland, current control technology, cost effectiveness estimates, Maryland's RACT recommendation, and the rationale.

Maryland Small Source Requirement for NO_x

In regulation COMAR 26.11.02 "Permits, Approvals and Registration," Maryland has established a comprehensive review process for minor sources. By keeping the Maryland exemption threshold low, all other sources are included in the review process. The affected minor sources emit well below the major source and CTG thresholds. The requirements of COMAR 26.11.02 ensure that all major and CTG sources are controlled by RACT at a minimum.

Table 2. Maryland NO_x RACT Regulations under the 8-Hour Ozone NAAQS

Source Category	Code of Maryland Regulations (COMAR) Citation	SIP # & SIP Final Date(s) Approved by EPA	Link to Pages with Detailed NO_x RACT Analysis, including RACT Basis.
Fuel-Burning Equipment Located at Major Sources – General Requirements and Conditions	26.11.09.08A&B	SIP 00-06, 2/8/2001	See pp.28-29, below.
Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 MMBtu/hr or Greater	26.11.09.08C	SIP 00-06, 2/8/2001	See pp.30-31, below.
Fuel-Burning Equipment with a Rated Heat Input Capacity of Less than 250 MMBtu/hr and Greater than 100 MMBtu/hr	26.11.09.08D	SIP 00-06, 2/8/2001 SIP 02-06, 5/1/2003	See pp.32-33, below.
Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less	26.11.09.08E	SIP 00-06, 2/8/2001	See p.34, below.
Space Heaters	26.11.09.08F	SIP 00-06, 2/8/2001	See pp.35-36, below.
Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less	26.11.09.08G(1)	SIP 00-06, 2/8/2001	See pp.37-38, below.
Combustion Turbines with a Capacity Factor Greater than 15 Percent	26.11.09.08G(2)	SIP 00-06, 2/8/2001	See pp.39-41, below.
Hospital, Medical, and Infectious Waste Incinerators (HMIWI)	26.11.09.08H(4)	SIP 00-06, 2/8/2001	See p.42, below.
Municipal Waste Combustors (MWC)	26.11.09.08H(3)	SIP 00-06, 2/8/2001	See p.43, below.
Glass Melting Furnaces	26.11.09.08I(1)&(2)	SIP 00-06, 2/8/2001	See pp.44-47, below.
Industrial Furnaces and Other Miscellaneous Installations that Cause Emissions of NO_x	26.11.09.08J	SIP 00-06, 2/8/2001	See p.48, below.
Kraft Pulp Mills	26.11.14.07 26.11.09.08C(2)(h)‡	Adopted in Maryland effective 7/26/10, not yet submitted to EPA. SIP 00-06, 2/8/2001	See pp.49-50, below.
Portland Cement Manufacturing Plants	26.11.29.03 26.11.09.08H(1)&(2)‡	SIP 00-05, 1/10/2001 SIP 03-09, 3/22/2004 SIP 00-06, 2/8/2001	See pp.51-53, below.
Stationary Internal Combustion Engines at Natural Gas Compression Stations	26.11.29.05B & C 26.11.09.08I(3)&(4)‡	SIP 00-05, 1/10/2001 SIP 03-09, 3/22/2004 SIP 00-06, 2/8/2001	See pp.54-55, below.

Note: The emissions statements from major sources have been required since 1993. Data in Appendix C shows the applicable RACT regulation and the emissions from these sources as reported in 2004.

‡RACT requirements for this source also exist under the COMAR 26.11.09.08 citation.

NO_x RACT Analysis for Fuel-Burning Equipment Located at Major Sources

Introduction

All major sources of NO_x emissions are subject to the RACT standards of COMAR 26.11.09.08 "Control of NO_x Emissions from Major Stationary Sources." The regulation identifies a number of different types of fuel burning equipment as well as other major sources of NO_x emissions and provides appropriate standards and options for compliance. Boilers at the National Institute of Standards and Technology (NIST) and the National Institutes of Health (NIH) are subject to these standards. In addition, the boilers at the Pennwood Generating Station of RG Steel are subject to these limits because they use blast furnace gas as a fuel, rather than coal, oil or gas alone.

Current Control Technology

COMAR 26.11.09.08A "Applicability" identifies the major source thresholds throughout Maryland and COMAR 26.11.09.08B "General Requirements and Conditions" has general standards for oil, gas and coal fired equipment. The standards are identified based on equipment type and fuel and are fairly general. The standards are 0.20, 0.25 and 0.38 lbs NO_x per million Btu for gas, oil and coal fired (dry bottom) equipment, respectively. COMAR 26.11.09.08C-K identifies specific types of equipment and sets specific limits for that equipment, and these RACT limits are covered separately, below. The specific types include glass furnaces; cement kilns; kraft pulp mills; space heaters; municipal waste combustors; hospital, medical and infectious waste incinerators; internal combustion engines at gas compression stations; combustion turbines; and boilers of several sizes: greater than 250MMBtu/hr, less than 250 MMBtu/hr but greater than 100 MMBtu/hr, and less than 100 MMBtu/hr. COMAR 26.11.09.08A ensures that all major sources of NO_x are covered by a RACT standard.

The combination of standards and control options is based on a feasibility analysis of existing sources, operational characteristics, age of equipment, combustion technology, fuels in use, process requirements, the cost for controls, and information and guidance in the following documents:

1. *Summary of NO_x Control Technologies and their Extent of Application, USEPA February 1992;*
2. *State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990;*
3. *USEPA Memorandum Subject: De Minimis Values for NO_x RACT, from G.T. Helms, Ozone Policy and Strategies Group, dated 1/1/1995; and*
4. *Alternative Control Techniques (ACT) Document, NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers (EPA-453/R-94-022).*

Cost Effectiveness Estimates

The economic impact range and guidelines for the implementation of RACT standards is discussed in the individual write-ups.

Recommendation

The NO_x standards and option under COMAR regulation 26.11.09.08B represent RACT for general fuel burning equipment at major sources for the 0.08 ppm O_3 NAAQS.

Rationale

COMAR 26.11.09.08A and B establish applicable major source limits and general standards for the most prevalent type of NO_x sources. Selection of these standards as the starting point for RACT is based on an analysis of feasible controls for recent technologies using the EPA guidance documents listed above. Achieving these standards may or may not be cost effective for all types of fuel burning equipment at major sources and additional analyses are presented in cases where exceptions to these standards are given.

NO_x RACT Analysis for Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 MMBtu/hr or Greater

Introduction

Fifteen of the largest electric generating units belong to this category and are coal fired. Four additional units are gas, oil or dual-fueled gas/oil units. Utilization of the non-electric generating units in this heat input range takes place throughout the year at high capacity levels.

The electric generating sources included in this category are as follows:

AES Warrior Run Generating Station Fluidized bed coal-fired boiler **American Sugar Refining, Inc.** **Constellation Power:** Brandon Shores Generating Station 2 coal-fired boilers C P Crane Generating Station 2 coal-fired boilers Gould Street Station Herbert A Wagner Generating Station 2 coal-fired boilers 1 gas boiler 1 oil boiler Perryman Generating Station Riverside Generating Station 1 boiler **Cove Point LNG Facility**	**GenOn (Mirant):** Chalk Point Generating Station 2 coal-fired boilers 2 dual-fueled boilers Dickerson Generating Station 3 coal-fired boilers Morgantown Generating Station 2 coal-fired boilers **National Institutes of Health** **Panda Brandywine Generating Station** **R. Paul Smith Generating Station** 2 coal-fired boilers **NRG Vienna Generating Station**

Current Control Technology

COMAR 26.11.09.08C "Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 Million Btu Per Hour or Greater" contains several standards for coal-fired electric generating units, a standard for oil or gas fired electric generating units and standards for non-electric generating units. Non-electric generating units are required to meet the standard of 0.70 lbs of NO_x per Million Btu during ozone season and 0.99 lbs of NO_x per Million Btu during the rest of the year. Oil fired or gas/oil-fired units located at electric generating facilities are required to meet the standard of 0.30 lbs of NO_x per Million Btu. RACT requirements for coal fired units in this regulation are superseded by the more restrictive standards under COMAR 26.11.27 which is considered beyond RACT at this point. Two of the dual-fueled units are required, through consent orders, to operate on natural gas. This RACT determination is based on analysis of operational characteristics of sources, age of equipment, combustion technology, fuel composition, process requirements, the cost for controls, and information and guidance in the following documents:

1. *Summary of NO_x Control Technologies and their Extent of Application, USEPA February 1992;*

2. *State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990;*
3. *USEPA Memorandum Subject: De Minimis Values for NO_x RACT, from G.T. Helms, Ozone Policy and Strategies Group, dated 1/1/1995; and*
4. *Alternative Control Techniques (ACT) Document, NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers (EPA-453/R-94-022).*

Combustion modification technologies for boilers greater than 250 MMBtu/hr are adaptable to the different types and designs of boilers. The impact of these technologies is minimal on boiler operation and can be controlled. Once these technologies are integrated into the operation of the boiler, the standards can be maintained by following operating practices. For coal, oil and gas boilers, low NO_x burner technology, gas reburn, flue gas recirculation and other combustion controls and optimization are applicable.

Cost Effectiveness Estimates

Units in this size category installed controls in response to the NO_x SIP Call. Many units installed selective catalytic reduction (SCR) controls, over-fired air and separated over-fired air. Several units installed SCR post-NO_x SIP Call. Most of these controls fall in the range of $1,500-$2,500/ton.

Recommendation

The NO_x standards under COMAR regulation 26.11.09.08C represent RACT for fuel burning equipment with a heat input capacity of 250 MMBtu/hr and greater for the 0.08 ppm O_3 NAAQS. Most units are controlled beyond RACT levels.

Rationale

This RACT is based on an analysis of feasible controls from the EPA guidance documents listed above considering cost-effectiveness. Most of these units are now subject to more stringent standards established by the NO_x SIP Call which are maintained in regulations specific to the industry which utilizes the boiler. All coal-fired utility boilers in Maryland are subject to more stringent emission limitations under COMAR 26.11.27. Most oil-fired utility boilers with dual-fuel capability are subject to consent orders that require the boilers to operate on natural gas. For purposes of this standard, COMAR 26.11.27 and the consent orders are considered beyond RACT. Since these boilers are subject to these more stringent controls, the rates in 26.11.09.08 are certified as RACT.

NO_x RACT Analysis for Fuel-Burning Equipment with a Rated Heat Input Capacity of Less Than 250 MMBtu/hr and Greater Than 100 MMBtu/hr

Introduction

Maryland has 55 units of fuel burning equipment each with an input capacity of less than 250 MMBtu/hr and greater than 100 MMBtu/hr. A majority of these units are gas fired and operate at capacity factors of greater than 50% throughout the year. Only one facility has coal-fired boilers in this size range.

Point sources in this category include:

Calvert Cliffs Nuclear Power Plant, LLC
Chesapeake Renewable Energy, LLC
Fort Detrick
Johns Hopkins Hospital
Mack Trucks, Inc.
National Institutes of Health
Naval Support Facility - Indian Head
Tri-gen Baltimore Energy Spring Gardens Plant
University of Maryland
W.R. Grace and Co.

Current Control Technology

COMAR 26.11.09.08D "Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of Less than 250 Million Btu Per Hour and Greater than 100 Million Btu Per Hour" requires coal fired units to meet the standard of 0.65 lbs NO_x per Million Btu. Oil and gas fired units are required to meet the standards of 0.25 and 0.20 lbs NO_x per Million Btu respectively. This RACT determination is based on analysis of operational characteristics of sources, cost for controls, information and guidance in the following documents:

1. *Summary of NO_x Control Technologies and their Extent of Application, USEPA February 1992;*
2. *State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990;*
3. *USEPA Memorandum Subject: De Minimis Values for NO_x RACT, from G.T. Helms, Ozone Policy and Strategies Group, dated 1/1/1995; and*
4. *Alternative Control Techniques (ACT) document, NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers (EPA-453/R-94-022).*

Cost Effectiveness Estimates

The standards can be met with combustion modifications and existing controls. Cost effectiveness of combustion modification falls generally in the range of $300-1,000/ton (based on data from manufacturers, publications and EPA documents).

Recommendation

The NO_x standards under COMAR regulation 26.11.09.08D represent RACT for fuel burning equipment with a heat input capacity of less than 250 MMBtu/hr and greater than 100 MMBtu/hr for the 0.08 ppm O_3 NAAQS.

Rationale

This RACT is based on an analysis of feasible controls and the EPA guidance documents listed above. Since many of the boilers in this category are utilized in schools and hospitals which have less ability to afford more expensive controls, these standards represent cost effective controls for the type of fuel burning equipment in this category. Implementation of this RACT standard does not require excessive expense for the owners. The federal facility is phasing out its coal fired boilers by 2015.

NO_x RACT Analysis for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less

Introduction

Maryland has approximately 1,400 units of fuel burning equipment each with an input capacity of 100 MMBtu/hour or less. A majority of these units are oil fired and operate at a capacity factor of less than 50% because they operate only outside of ozone season. The National Security Agency, Prince George's County Correctional Facility, and the Naval Air Station are examples of a few of the facilities having units subject to this standard.

Current Control Technology

COMAR 26.11.09.08E, "Fuel Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less," requires combustion analysis and optimization of combustion each year. Equipment operators are required to maintain records for a period of two years. Equipment operators are also required to undergo training every three years under a program that is approved by U.S. EPA, the Department or the equipment vendor.

The combustion optimization method, software and technology can be cost effectively applied to boilers in the size category of 100 MMBtu/hr or less and generate approximately 10-15% in NO_x emission reductions. These reductions can be maintained if the optimization is conducted annually. Operator training also influences optimum operation of the boiler over the year and reduces the operating cost. Combustion analysis and optimization have the potential to further reduce emissions and operating costs at the same time.

Cost Effectiveness Estimates

The standard can be met with limited economic impact. Optimization reduces the cost of operation over a year, as combustion efficiency and NO_x reductions are improved. The combustion analysis and optimization are required each year and would have to be conducted again to account for the wear of equipment such as burners, components of the combustion chamber, and air and fuel supply systems. The owner of a boiler in the size range of 100 MMBtu/hr or less would incur a yearly expense of approximately $500-1,500/ton depending on the complexity of its systems.

Recommendation

The NO_x standard under COMAR regulations 26.11.09.08E represents RACT for fuel burning equipment with an input capacity of 100 MMBtu/hr or less for the 0.08 ppm O_3 NAAQS.

Rationale

This RACT is based on cost effective options and best practices. Since much of this equipment operates outside of the ozone season, extremely stringent limits and complicated controls would be very burdensome for this type of general source and its budgetary limitations. This standard requires cost effective control optimization for smaller fuel burning equipment of 100 MMBtu/hr or less. Implementation of this RACT standard does not require significant additional expense for the owners.

NO_x RACT Analysis for Space Heaters

Introduction

A space heater is fuel burning equipment intended for heating an enclosed space and is permitted with other equipment at a point source. Natural gas or oil is primarily used as fuel and at times propane may also be used in these units. Space heaters are used as a direct heat source, unlike boilers that are an indirect heat source. The heat may be needed for a warehouse area, or to heat the exterior of process equipment to assist in the primary function of the equipment.

Approximately 50 space heater units are registered with a facility under the major source category. Examples of facilities with space heaters include the Social Security Administration, National Security Agency, and Naval Air Station.

Current Control Technology

Under COMAR 26.11.09.01B(20), a space heater is defined as fuel-burning equipment that consumes more than 60 percent of its annual fuel during the period from October 31 of one year through March 31 of the following year. Annual fuel use is the total fuel consumed during the period October 1 of one year to September 30 of the following year.

Under COMAR 26.11.09.08F, "Requirements for Space Heaters," space heater operators are required to:

1. Implement an operating and maintenance plan to minimize NO_x emissions, and
2. Attend operator training once every 3 years and maintain a record of the training attendance.

No emissions limits are set in this regulation; application of best management practices is required.

Cost Effectiveness Estimates

Space heaters are small units, and retrofitting low NO_x technology would exceed the cost of the equipment. The prohibitive cost estimate follows the reasoning of the EPA memorandum, "De Minimis Values for NO_x RACT" dated 1/1/1995, from G.T. Helms, Ozone Policy and Strategies Group.

Recommendation

The current COMAR regulations 26.11.09.08F represents RACT for this source category for the 0.08 ppm O_3 NAAQS.

Rationale

Space heaters are small sources of NO_x emissions at major sources. Although it is often necessary and preferable to control emissions from all units at a major source, space heaters are most often used during the time when temperatures are low and therefore the NO_x emissions do not occur at times when ground level ozone is a problem in the State. However, NO_x emissions during the colder months may still contribute to regional fine particle pollution.

EPA guidance memoranda include the following: "NO_x Policy Document for the Clean Air Act of 1990" (EPA-452/R-96-005, March 1996), and EPA's January 1, 1995 memorandum entitled, "De Minimis Values For NO_x RACT".

NO_x RACT Analysis for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less

Introduction

Some fuel-burning equipment in Maryland operates with a capacity factor of less than 15%. These units do not have capacity limits and may also operate at a higher capacity level. Different RACT limits are applicable. The following units may qualify for this RACT limit.

Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less
(Note that sources with an asterisk are subject to stricter limits under BACT.)

Chalk Point Generating Station 5 gas CT SMECO Connectiv Delmarva Generation 4 oil ICEs Dickerson Generating Station 2 CT at Station H Easton Utilities, Airport Park 2 gas/oil CT 7 generators, oil fired Easton Utilities, Washington Street 6 generators, oil fired 3 generators, oil/gas fired Gould Street Generating Station 1 boiler* Morgantown Generating Station 4 gas CT National Institutes of Health 23 CT 3 CT* National Security Agency (NSA) Naval Air Station	Notch Cliff Generating Station 8 gas CT NRG Vienna Generating Station 1 oil CT 1 boiler 1 auxiliary boiler Panda Brandywine 2 gas/oil CT* Perryman Generating Station 4 oil CT 1gas/oil CT Philadelphia Road Generating Station 4 oil CT Riverside Generating Station 1 gas/kerosene CT 2 oil CT 1 boiler Rock Springs Generating Station 4 gas CT* 1 boiler Social Security Administration 3 CT Westport Generating Station 1 gas CT

Current Control Technology

Under COMAR 26.11.09.08(G)(1), Requirements for Fuel Burning Equipment with a Capacity Factor of 15 Percent or Less, combustion analysis and optimization for NO_x from fuel burning equipment operating greater than 500 hours during a calendar year are required. Due to the short operational time period and low annual emissions, the RACT requirements are less stringent.

At capacity factors of 15% or less, combustion optimization method can be cost effectively applied to fuel burning equipment. An approximate 10 -15% in NO_x emission reductions can be expected. These reductions can be maintained if the optimization is conducted annually. Operator training also influences optimum operation of the fuel burning equipment over the year and reduces the operating cost.

Cost Effectiveness Estimates

Optimization reduces cost of operation over a year, as combustion efficiency and NO_x reductions are improved. If the fuel burning equipment is operated over a year, the combustion analysis and optimization must be conducted again to account for the wear of equipment such as burners, components of the combustion chamber, and air and fuel supply systems. An operator would incur a yearly expense of approximately $500-1,500 depending on the complexity of the systems.

Recommendation

The NO_x requirements under COMAR regulation 26.11.09.08G(1) represents RACT for fuel burning equipment with an input capacity of 15 percent or less for the 0.08 ppm O_3 NAAQS.

Rationale

This standard requires cost effective control optimization for smaller fuel burning equipment that have low capacity factors. At higher capacity factors standards become applicable. Implementation of this RACT standard does not require significant additional expense for the owners.

NO_x RACT Analysis for Combustion Turbines with a Capacity Factor Greater than 15 Percent

Introduction

Maryland has a number of gas turbines (approximately 70) that provide additional electricity generation during periods of peak energy demand. This RACT standard applies to turbines that operate at a capacity factor of more than 15%. The combustion turbines below may be utilized at a capacity factor of more than 15%. Note that sources with an asterisk are subject to stricter limits under BACT.

Combustion Turbines with a Capacity Factor Greater than 15 Percent

Chalk Point Generating Station 5 gas CT SMECO Dickerson Generating Station 2 CT at Station H Morgantown Generating Station 4 gas CT National Institutes of Health 23 CT 3 CT* 1 cogeneration system/CT National Security Agency Notch Cliff Generating Station 8 gas CT NRG Vienna Generating Station 1 oil CT	Panda Brandywine 2 gas/oil CT* Perryman Generating Station 4 oil CT 1gas/oil CT Philadelphia Road Generating Station 4 oil CT Riverside Generating Station 1 gas/kerosene CT 2 oil CT Rock Springs Generating Station 4 gas CT* Social Security Administration 3 CT Westport Generating Station 1 gas CT

Current Control Technology

COMAR 26.11.09.08(G)(2), Combustion Turbines with a Capacity Factor Greater than 15 Percent, establishes limits for combustion turbines utilized at greater than 15% capacity. Gas fired turbines are required to meet a NO_x emission rate of 42 ppm, and oil fired turbines are required to meet an emission rate of 65 ppm or meet applicable Prevention of Significant Deterioration limits found in the permit to construct. The RACT determination is based on analysis and information from affected sources and information in:

1. *Alternative Control Techniques document: NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers, EPA-453/R-94-022, March 1994;*
2. *Alternative Control Techniques Document: NO_x Emissions from Stationary Gas Turbines, US EPA, EPA-453/R-93-007, January 1993;*
3. *NESCAUM Stationary Source Committee Recommendation on NO_x RACT for Industrial Boilers, Internal Combustion Engines and Combustion Turbines 9/18/1992;*

4. *NESCAUM Status Report on NO_x Controls for Gas Turbines, Cement Kilns, Industrial Boilers, Internal Combustion Engines, December 2000;*
5. *USEPA Summary of NO_x Control Technologies and their Availability and Extent of Application, February 1992; and*
6. *USEPA Summary of State/Local NO_x Regulations for Stationary Sources, 2004.*

Three NO_x control methods are in wide use on combustion turbines. Water injection and low NO_x combustors prevent the formation of NO_x, while selective catalytic reduction controls NO_x post combustion.

Water/steam injection lowers peak flame temperatures by providing an inert diluent that limits thermal NO_x formation. Water may be injected directly into the turbine combustor, or may be converted to steam using turbine exhaust waste heat, and then injected into the combustor. More steam than water must be used to achieve a comparable NO_x reduction. Use of steam results is more economical as it has lower energy penalty than use of water and can provide reductions with no energy penalty if the heat used to generate steam would have been wasted. Some turbines may experience operational problems due to water/steam if they are not designed to resist corrosion. Higher water to fuel ratios increase CO and HC emissions and reduce energy efficiency as well.

Dry low NO_x combustors include several different technologies and options. One approach is to utilize lean pre-mixed combustion. This technology utilizes a large amount of excess air to the combustion chamber to lower peak flame temperatures by dilution. Air and fuel are premixed in lean premixed combustors to avoid the creation of local fuel-rich high-temperature zones. Retrofit of this technology requires modification of the turbine combustor. Turbine combustors generally operate at a high temperature range and produce relatively large NO_x emissions. Modified combustors produce reductions only at high turbine loads. Reduced fuel requirements at low loads and premixing would yield air fuel mixtures near the lean flammability limit, with flame instability and high CO emissions.

Selective catalytic reduction (SCR) is the only technology that will control post combustion NO_x emissions. Turbines use a catalyst to control NO_x emissions. For turbines, SCR retrofits include a catalyst, and ammonia storage and distribution system and controls.

Cost Effectiveness Estimates

The economic impact of the implementation of RACT standards has been estimated by EPA on a national level. For continuous operation of turbines, the cost figures are: 1. Water/steam injection less than $500/ton; 2. Combustor modification, $600-1,000/ton; and 3. SCR, above $2,000-2,500/ton. These cost estimates are based on manufacturer's data, publications and the EPA documents listed above.

Recommendation

The NO_x standard under COMAR regulation 26.11.09.08G(2) represents RACT for combustion turbines with a capacity factor greater than 15 percent for the 0.08 ppm O_3 NAAQS.

Rationale

This RACT is based on analysis of feasible controls for turbines based on EPA guidance documents listed above. The water injection method would appear to be the most cost-effective

control and some of the turbines are equipped with it. However, turbines cannot be retrofitted with water injection. Implementation of this RACT standard does not require a significant capital and operating expense for the owners. A more stringent standard is currently under consideration by the Ozone Transport Commission for gas turbines.

NO_x RACT Analysis for Hospital, Medical, and Infectious Waste Incinerators (HMIWI)

Introduction

Incinerators that burn hospital waste consisting of discards generated at a hospital, and medical/infectious waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research, or in the production or testing of biologicals are HMIWI. There are two HMIWI facilities in Maryland.

US Army Fort Detrick operates two large HMIWI units, each rated at 1,000 lbs/hr.

Curtis Bay Energy (formerly Phoenix Services) operates two large commercial HMIWI units with a permitted total combined capacity of 150 tons per day.

Current Control Technology

COMAR 26.11.09.08H(4) applies to HMIWI. The current NO_x standard for large HMIWI is 250 ppm by volume. The 250 ppm Maryland standard is based on the maximum achievable control technology (MACT) determination for NO_x in emission guidelines for HMIWI, 40 CFR 60 Subpart Ce, as revised, September 15, 1997. This standard can be achieved by good combustion.

HMIWI control technology consists of multiple combustion chambers, acid gas control, and particulate matter systems. Based on required tests, affected sources have met the standard.

Cost Effectiveness Estimates

The economic impact of the implementation of MACT standards has been estimated by EPA on a national level. Annual cost of control can be recovered by hospitals with a price increase of 0.03 percent. The average price increase for commercial incinerators is expected to be approximately 2.6 percent.

Recommendation

The NO_x standard under COMAR regulations 26.11.09.08H(4) represents RACT for this source category for the 0.08 ppm O_3 NAAQS.

Rationale

This RACT is also the current MACT standard of 250 ppm by volume. MACT standards are based on controls for the best performing units. Since the MACT is federally required, cost is not an issue. This is the maximum achievable control standard in 2007.

NO_x RACT Analysis for Municipal Waste Combustors (MWC)

Introduction

Maryland municipal waste combustors (MWCs) are in two size categories. A large MWC is an existing municipal waste combustor for which construction began on or before September 20, 1994 and that has a capacity to burn 250 tons per day of municipal waste as defined under 40 CFR 60.32b. Maryland has two large MWCs: Montgomery County Resource Recovery Facility and Wheelabrator Baltimore, L.P.

An MWC with a capacity range of 35 tons or more per day and less than 250 tons per day is also subject to standards and requirements. Two facilities are subject to these requirements: Harford County Resource Recovery Facility and U.S. Army Garrison at Fort Detrick Area A.

Current Control Technology

COMAR 26.11.09.08H(3), "Control of NO_x Emissions for Major Stationary Sources" references controls required under the 111(d) Plan: COMAR 26.11.08.08. Municipal waste combustors with a burning capacity of 35 tons or more per day and less than or equal to 250 tons per day, and that were constructed on or before August 30, 1999 are subject to the requirements of 40 CFR 62 Subpart JJJ. COMAR 26.11.08.08 applies to existing large MWCs with a capacity greater than 250 tons per day. The current NO_x standard for large MWC is 205 ppmv 24-hr arithmetic average. The 205 ppm Maryland standard is based on the maximum achievable control technology (MACT) determination for NO_x in emission guidelines for MWC, 40 CFR 60 Subpart Cb, as revised, May 10, 2006. This standard can be achieved by combustion control and optimization.

MWC control technology consists of combustion control, acid gas control, and particulate matter systems. Based on required tests, affected sources have met the standard.

Cost Effectiveness Estimates

The economic impact of the implementation of MACT standards has been estimated by EPA on a national level. The standard can be met with existing controls, and no additional cost or economic impact is expected.

Recommendation

The NO_x standards under COMAR 26.11.09.08H(3) represent RACT for large MWCs for the 0.08 ppm O_3 NAAQS. RACT for small MWCs are under 40 CFR 62 Subpart JJJ.

Rationale

This RACT is based on the current MACT standard. MACT standards are developed based on the controls for the best performing units, therefore this is the maximum achievable control standard in 2007. Since the MACT is federally required, this control also represents a cost-effective approach.

NO_x RACT Analysis for Glass Melting Furnaces

Introduction

There currently is one glass melting furnace in Maryland and it is owned and operated by the PQ Corporation. The PQ Corporation facility, in Baltimore, manufactures liquid silicate glass, using raw materials of sand (SiO_2) and soda ash (Na_2CO_3). The raw materials are fed into a furnace fueled by natural gas. The molten glass is poured into a rotary dissolver where it is dissolved in water. PQ averages about 460 pounds of NO_x per day during normal operation.

Historical Emissions

In 2002, the PQ Corporation's NO_x emissions were 133 tons per year. In 2004, due to installation of low NO_x burners, the emissions were reduced to 67 tons per year and have continued to decline as shown in Table 3.

Table 3. Historical NO_x Emissions for PQ Corporation

Year	NO_x Emissions (tons/year)	Production (tons glass/year)	Emission Factor * (per ton glass produced)	Max. Potential
2010	9 tons	3,864 **	4.5 lbs NO_x ***	99 tons NO_x
2009	30 tons	13,143	4.5 lbs NO_x	99 tons NO_x
2008	59 tons	26,199	4.5 lbs NO_x	99 tons NO_x
2007	77 tons	34,032	4.5 lbs NO_x	99 tons NO_x
2006	74 tons	32,976	4.5 lbs NO_x	99 tons NO_x
2005	61 tons	26,990	4.5 lbs NO_x	99 tons NO_x
2004	67 tons	29,641	4.5 lbs NO_x	99 tons NO_x
2003	147 tons	33,413	8.8 lbs NO_x	176 tons NO_x
2002	133 tons	30,156	8.8 lbs NO_x	176 tons NO_x

* Emission factor used for Emissions Certification

** The 2010 emissions certification report stated that the furnace was started up in October, 2010 after being idled in May, 2009. It operated for the remainder of 2010.

*** The 4.5 lbs NO_x emissions factor is the average of 3 stack test runs conducted on November 18, 2004.

Current Control Technology

Under the 1-hour ozone standard, Maryland established NO_x RACT requirements under COMAR 26.11.09.08I(1)&(2) for glass melting furnaces. NO_x RACT for this source category requires control of the excess oxygen level in the glass furnace at 4.5% or less. The source must keep the furnace properly maintained to assure compliance with all applicable regulations.

The PQ Corporation installed low NO_x burners in 2004 because the previous burners were in poor condition (1950s vintage) and parts were no longer available to maintain or repair them. The low NO_x burners provide the company with increased fuel combustion efficiency and lower NO_x

emissions. At that time, the Department established additional requirements for the facility including a NO_x rate and a permitted maximum annual silicate production limit.

Emission Rate

The current NO_x emission rate is 4.5 lbs NO_x per ton of glass produced, which is the average of three stack tests results conducted November 18, 2004, after the low-NO_x burners were installed. The emission rate prior to 2004 was 8.8 lbs NO_x per ton glass. See Table 3, above.

Production Limit

On March 5, 2008 PQ requested a modification to their Permit to Construct (PTC) that was issued on June 3, 2004. This permit authorized the installation of the low NO_x burners for reasons discussed earlier, and set annual silicate production limit at 44,000 tons per year based on an assumed NO_x emissions factor of 7.48 lbs/ton of glass produced. Subsequent to the installation of the low NO_x burners, PQ conducted the November 18, 2004 emissions testing of the low NO_x burners.

Calculated NO_x emissions factors were 3.67, 4.07 and 5.73 lbs per ton of glass produced for the three stack test runs. For the purpose of determining annual production rate that would not trigger New Source Review requirements, the highest of the three emissions factors was used as worst-case scenario. Thus using a NO_x emissions factor of 5.73, a rate of 54,000 tons per year was determined. The 2004 PTC was amended on October 20, 2008 to reflect the new production limitation of 54,000 tons of silicate. The new production limit will not result in increased emissions.

Cost Effectiveness Estimates

EPA's Alternative Control Techniques Document (NO_x Emissions from Glass Manufacturing, June, 1994, page 2-5) identified three types of NO_x control technologies available:

- Combustion modifications (using low NO_x burners or oxy-firing);
- Process modifications (using cullet preheat or electric boost); and
- Post-combustion modifications (using selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR))

Low NO_x burners

PQ Corporation-Baltimore installed low NO_x burners (in 2004) and reduced its NO_x emission from a high of 147 tons per year in 2003 to 67 tons per year in 2004.

Oxy-firing technology

EPA's 1994 ACT document estimated an 85 percent reduction in NO_x emissions for oxy-firing with a cost-effectiveness of $4,400 to $5,300 for plants of this size (U.S. EPA, Alternative Control Techniques Document – NO_x Emissions from Glass Manufacturing, June, 1994, Table 6-4, page 6-4).

According to a 2007 Ozone Transport Commission (OTC) Technical Support Document, a recent study by the European Commission (EC 2001b) reports a 75 to 85 percent reduction in NO_x based on oxy-firing[1] technology, resulting in emission rates of 1.25 to 4.1 pounds of NO_x per ton of glass produced (Ozone Transport Commission, "Identification and Evaluation of Candidate Control Measures," Final Technical Support Document, prepared by MACTEC, February 28, 2007, page 4-11). The cost effectiveness[2] was determined to be $1,254 to $2,542 depending on the size of the furnace.

Selective non-catalytic reduction (SNCR)

SNCR would not be an option as a control measure since it requires temperatures in the 1600-2100 degree Fahrenheit range and flue gases at the PQ Corporation glass melting furnace in Baltimore are in the 500-600 degree Fahrenheit range. Also, it would be difficult, if not impossible, to find an injection point in this temperature range which would not interfere with the composition of the final product.

Selective catalytic reduction (SCR)

SCR would not be an option as a control measure for the same reason as SNCR. It requires a very different temperature range than what exists at PQ's Baltimore facility. Without the proper temperature, the facility would need to reheat the flue gas before treatment. This would not be cost effective given the minimal NO_x reductions possibly gained.

Other Technologies

Other technologies, which may be used to meet the limits recommended by the OTC member states, are shown in Table 4 below (Ozone Transport Commission, "Identification and Evaluation of Candidate Control Measures," Final Technical Support Document, prepared by MACTEC, February 28, 2007, Table 4.3, page 4-10). The costs associated with meeting those limits are source-specific and depend on the existing controls in place and the emission rates being achieved. Site-specific factors greatly influence the actual achievable performance level and control costs at a particular facility. Unfortunately, OTC's recommendations shown in Table 2 do not include the silicate glass produced by PQ Corporation's Baltimore facility.

Table 4. Addendum to OTC Resolution 06-02 Guidelines for Glass Furnaces

Type of Glass	Emission Rate (lbs NO_x/ton of glass pulled) Block 24-hr Ave.	Emission Rate (lbs NO_x/ton of glass pulled) Rolling 30-day Ave.
Container Glass	4.0	n/a
Flat Glass	9.2	7.0
Pressed/blown Glass	4.0	n/a
Fiberglass	4.0	n/a

[1] Oxy-fuel firing, meaning replacing the air for burning fuel with an air stream that is mostly or completely O_2, is a firing technology that has inherently low NOx emissions because the nitrogen has been removed from the air stream.

[2] Cost per ton of NOx removed

Recommendation

The current COMAR regulation COMAR 26.11.09.08I(1)&(2) in conjunction with the current permit to construct limits represents RACT for this source category for the 0.08 ppm O_3 NAAQS.

NO_x RACT for this source category requires control of the excess oxygen level in the glass furnace at 4.5% or less. The source must keep the low NO_x burners and furnace properly maintained to assure compliance with all applicable regulations. The production limit for the source is 54,000 tons of silicate.

Rationale

PQ's emissions are currently controlled with low-NO_x burners and controlling excess air. There is also a production limit. Together these limits have reduced the plant's emissions by 40%. SNCR and SCR are not feasible as RACT controls for the reasons stated above. EPA previously approved the oxygen limit as RACT for this source category for the 1-hour ozone on February 8, 2001. EPA's NSPS for Glass Plants (40 CFR 50, subpart CC) and NESHAP for area source Glass Plants (40 CFR 63, subpart SSSSSS) do not specify any NO_x control requirements. Research has not identified any other cost effective controls for this category.

NO_x RACT Analysis for Industrial Furnaces and Other Miscellaneous Installations that Cause Emissions of NO_x

Introduction

Some sources have specialized equipment that produces heat, such as dryers, but are not fuel burning equipment under the definition of fuel burning equipment from COMAR 26.11.01.01 b(17). Point sources with this type of equipment include Mittiki Coal and RG Steel (formerly International Steel Group). The Social Security Administration also has emergency generators subject to this standard.

COMAR 26.11.09.08J "Requirements for Industrial Furnaces and Other Miscellaneous Installations that Cause Emissions of NO_x" requires that where possible the equipment be run on natural gas during ozone season, and it also requires good operating practices and operator training. Equipment operators are required to maintain records for a period of two years.

Cost Effectiveness Estimates

The standard can be met with limited economic impact based on the price differential between gas and the normal operating fuel.

Recommendation

The NO_x standard under COMAR regulation 26.11.09.08J represents RACT for furnaces and miscellaneous equipment for the 0.08 ppm O_3 NAAQS.

Rationale

This RACT is based on cost effective options and best practices and provides reduced NO_x emissions during ozone season.

NO_x RACT Analysis for Kraft Pulp Mills

Introduction

Kraft pulp mills produce paper pulp from wood by digesting the wood in a heated solution of sodium sulfide and sodium hydroxide (white liquor). Annual production is approximately 50 million tons of kraft pulp at close to 200 mills located in the United States. There are three significant sources of NO_x at kraft pulp mills – fossil-fuel fired and wood fired industrial boilers, recovery boilers, and lime kilns.

Currently, there is one kraft pulp mill located in Maryland: New Page Corporation located in Luke, MD. It operates three boilers - two large coal fired units and one gas fired unit that operates on an infrequent basis.

Current Control Technology

New Page Corporation Luke Mill has two RACT standards. Prior to 1999 and implementation of the NO_x SIP Call, fuel burning equipment at the mill was subject to an annual and ozone season NO_x emission rate under COMAR 26.11.09.08C(2)(h). After 1999, the mill was a non-trading source subject to ozone season controls under the NO_x SIP Call.[3]

COMAR 26.11.14.07, "Control of NO_x Emissions from Kraft Pulp Mills," applies to paper and pulp mills and establishes a NO_x emission limitation for fuel burning equipment located at pulp mills. The regulation requires all fuel burning equipment at any kraft pulp mill to meet a total NO_x emissions limit of 947 tons during the ozone season, May 1 to September 30 of each year. This limit may be exceeded by 95 tons of NO_x if NO_x allowances equal to the excess are purchased and surrendered to the Department. The regulation also establishes an emission rate of 0.99 pounds per Million Btu for the rest of the year based on the 30 day rolling average.

These standards can be achieved through the use of low excess air and air staging or selective noncatalytic reduction (SNCR). The use of low excess air and air staging has resulted in a reduction of NO_x emissions between 10 – 20 percent, while the use of SNCR can result in an emission reduction of NO_x of over 60 percent in some cases.

Cost Effectiveness Estimates

Based on the implementation and use of SNCR on boiler units in addition to other combustion controls in kraft pulp mills, SNCR cost effectiveness is estimated at $1,000 to $1,500 per ton of NO_x removed.

Recommendation

The current version of COMAR 26.11.14.07 represents NO_x RACT for this source category for the 0.08 ppm O_3 NAAQS.

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[3] Control requirements for this source were established under COMAR 26.11.29 as part of the NOx SIP Call. Equivalent requirements were added to COMAR 26.11.14.07 when MD repealed the NOx SIP Call so that all requirements for kraft pulp mills are now contained in COMAR 26.11.14.

Rationale

This RACT is based on federal standards for NO_x emissions from boilers at pulp and paper facilities (Alternative Control Techniques document: NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers, EPA-453/R-94-022, March 1994). There are no Federal NSPS or MACT standards for NO_x emissions from other emissions sources at kraft pulp mills.

As an initial emission reduction step, New Page Corporation installed improved combustion controls before RACT was required. The company later installed SNCR control systems at a cost of $2,000,000 which reduced emissions by approximately 47 percent.

Based upon this information, the current limits and standards are achievable and economically feasible and thus constitute RACT for this category.

NO_x RACT Analysis for Portland Cement Manufacturing Plants

Introduction

Portland cement manufacturing is an energy intensive process in which cement is made by grinding and heating a mixture of raw materials such as limestone, clay, sand, and iron ore in a rotary kiln. Nationwide, about 82 percent of the industry's energy requirements are provided by coal. Waste-derived fuels (such as scrap tires, used motor oils, surplus printing inks, etc.) provide about 14 percent of the energy. NO_x emissions are generated during fuel combination by oxidation of chemically-bound nitrogen in the fuel and by thermal fixation of nitrogen in the combustion air.

There are four main types of kilns used to manufacture Portland cement: long wet kilns, long dry kilns, pre-heater kilns, and pre-calciner kilns. Currently, there are two cement-manufacturing facilities located in Maryland: Holcim (US) Inc. located in Hagerstown, MD which operates a long dry kiln with average annual NO_x emissions of 1,403 tons/yr and Lehigh Cement located in Union Bridge, MD which operates a rotary kiln with a pre-heater system with average annual NO_x emissions of 3,961 tons/yr.

Current Control Technology

RACT requirements for cement kilns for the 1-hour ozone standard are in COMAR 26.11.09.08H(1)&(2). Maryland revised RACT for the 8-hour ozone standard. COMAR 26.11.29.03,[4] "Emission Reduction Requirements for Portland Cement Manufacturing Plants" applies to Portland cement manufacturing facilities and limits NO_x emissions from these sources by requiring cement kilns to install low NO_x burners or mid-kiln firing. After April 1, 2011, the following emission standards apply: for long, dry kilns, maximum emissions of 5.1 pounds of NO_x per ton of clinker and for pre-heater, pre-calciner kilns, maximum emissions of 2.8 pounds of NO_x per ton of clinker.

There are a variety of control technologies available to Portland cement manufacturing facilities to reduce NO_x emissions. These control options are summarized in Table 5, below, which is based on information in the following document:

> *Midwest Regional Planning Organization (RPO's) "Interim White Paper: Midwest RPO Candidate Control Measures, Source Category: Cement Kilns," 3/6/2006, accessed from http://www.ladco.org/reports/control/white_papers/portland_cement_plants.pdf, July 20, 2011*

[4] Control requirements for this source were established under COMAR 26.11.29 as part of the NOx SIP Call. The NOx SIP Call was repealed and equivalent requirements are maintained in that chapter along with additional, more stringent requirements. These requirements will be consolidated with all other cement plant requirements and relocated to COMAR 26.11.30.

Table 5. NO_x Control Technologies for Cement Kilns

Technology	Description	Applicability	Performance	Installed Costs	Cost ($/ton)
Feed Composition Modification	Changing the feed mix composition can decrease NO_x emissions. The use of air-cooled slag and the CemStar used by several cement manufacturing facilities in the US are examples.	Long Wet – Yes Long Dry – Yes Preheater –Yes Precalciner - Yes	Can result in NO_x emission reductions ranging from 23 – 40%.	Ranges from $25,000 to $250,000 depending on kiln type and size.	$550/ton
Low-NO_x Burners	Low-NO_x burners are designed to reduce flame turbulence, delay fuel/air mixing, and establish fuel-rich zones for initial combustion. The longer, less intense flames resulting from the staged combustion lower flame temperatures and reduce thermal NO_x formations.	Long Wet – Yes Long Dry – Yes Preheater –Yes Precalciner - Yes	Can result in NO_x emission reductions ranging from 4 – 47%.	Ranges from $330,000 (small kiln) to $410,000 (large kiln).	$300 to $1,200/ton
Mid-kiln Firing	A portion of the fuel (including tires) is burned at a lower temperature in a secondary firing zone to complete the preheating and calcination of raw materials.	Long Wet – Yes Long Dry – Yes Preheater –No Precalciner - No	Can result in NO_x emission reductions ranging from 28 – 59% for long wet kilns, emission reductions ranging from 11 – 55% for long dry kilns.	Ranges from $197,000 to $270,000.	-$460 to $730/ton
Selective Non-Catalytic Reduction	Injects ammonia-based reagent into upper furnace to reduce NO to elemental nitrogen (N_2).	Long Wet – No Long Dry – Yes Preheater – Yes Precalciner - Yes	Can result in NO_x emission reductions ranging from 10–50%.	Ranges from $1.3 to $2.5 million depending on kiln type, size, and reagent used.	-$310 to $2,500/ton
Selective Catalytic Reduction	SCR reduces NO and NO_2 to N_2 with the help of NH_3 and a catalyst. Although no SCR systems are currently being used on U.S. cement plants, this control technique has been applied successfully in other industries and pilot plant trials have been conducted in Europe.	Long Wet – Unknown Long Dry – Yes Preheater –Yes Precalciner - Unknown	Can result in NO_x emission reductions ranging from 70 – 90+%.	Ranges from $9.9 to $250 million depending on kiln type, size, and reagent used.	$1,500 to $2,000/ton

Some of the control technologies listed in Table 5 can be combined with others. In some instances the combination of two or more control technologies has resulted in a significant reduction in NO_x emissions from cement kilns. In one case study, the combination of mid-kiln firing and low NO_x burners resulted in NO_x emission reductions of close to 50%.

Cost Effectiveness Estimates

Please see Table 5, above, for a summary of the cost effectiveness of various control technologies available to Portland cement manufacturing facilities.

Recommendation

The current version of COMAR 26.11.29.03 represents RACT for this source category for the 0.08 ppm O_3 NAAQS.

Rationale

In 1998, the U.S. EPA finalized the NO_x SIP call to address the interstate transport of air pollution. The rule required states to submit revisions to their SIP to limit NO_x emissions from major stationary sources such as cement kilns. Based on an analysis of the NO_x SIP call, states adopted regulations providing operators of Portland cement kilns with several options for complying with the emission limits, including the use of low-NO_x burners, or mid-kiln firing that achieves a 30 percent reduction in NO_x emissions during the ozone season. Likewise, Maryland provided Portland cement kilns with two options for reducing NO_x emissions. As in other states, one option allowed cement manufacturing plants to install low NO_x burners on each kiln or modify each kiln to implement mid-kiln firing. The other option required cement manufacturing facilities to meet certain NO_x emission limits depending on kiln type: for long wet kilns, the limit is 6.0 pounds NO_x per ton of clinker produced; for long dry kilns, the limit is 5.1 pounds NO_x per ton of clinker produced; and for pre-heater/pre-calciner or pre-calciner kilns, the limit is 2.8 pounds NO_x per ton of clinker produced. One Maryland source adopted mid-kiln firing and installed a low NO_x burner; the other source rebuilt from a long wet kiln to the more efficient pre-heater, pre-calciner kiln.

Maryland determined that as part of the strategy to achieve the 0.08 ppm ozone standard, cement kilns could achieve greater reductions in NO_x. Maryland now requires cement kilns to meet specific NO_x rate limits by kiln type. The limits were recommended as feasible in 2000. No specific technologies are required as long as the rate is met. Since the U.S. EPA has not identified more stringent technologies or other implementation methods to establish greater NO_x emission reduction percentages for cement kilns since issuing the update to Alternative Control Techniques for NO_x emissions from cement manufacturing in 2000, the requirements of COMAR 26.11.29.03 represent RACT for this source category.

NO_x RACT Analysis for Stationary Internal Combustion Engines at Natural Gas Compression Stations

Introduction

Stationary internal combustion engines are the stationary relatives of motor vehicle engines and include engine types such as spark ignition, compression ignition, rich-burn and lean-burn. There are several million of these engines in use throughout the United States, and they have applications in industry, agriculture, municipal water supply and wastewater treatment, institutional emergency power generation, and oil and gas production and transmission. In the oil and gas industry, there are an estimated 6,000 large engines (350 hp and greater) that are used primarily in gas pipeline compression stations.

Currently, there are two facilities, located in Maryland, which use internal combustion engines for the purpose of compressing natural gas. Texas Eastern Transmission, L.P. (Texas Eastern), which transports natural gas via underground pipelines from the Gulf Coast region of the United States to the Northeast and Mid-Atlantic United States, owns and operates a natural gas compressor station (Accident Compressor Station) located in Accident, Garrett County, Maryland. This station has two internal combustion engines. NO_x emissions from this facility are now less than 25 tons per year.

Transcontinental Gas Pipe Line Company, LLC (Transco) owns and operates an interstate natural gas pipeline system which extends from production fields in the Gulf Coast region to market areas in the northeastern United States. Transco operates a natural gas compressor station (Compressor Station 190) in Ellicott City, Howard County, Maryland with five internal combustion engines. NO_x emissions from this facility average over 1,000 tons per year.

Current Control Technology

COMAR 26.11.29.05B&C, "Emission Reduction Requirements for Stationary Internal Combustion Engine at Natural Gas Pipeline Compression Stations," applies to internal combustion engines used to compress natural gas located at natural gas pipeline compression stations.

Available NO_x control strategies for stationary internal combustion engines range from combustion modifications, which include air-to-fuel adjustments, ignition timing retard, and prestratified charge technology, to low-emission combustion and non-selective catalytic reduction.

COMAR 26.11.09.08I(3)&(4),"Requirements for Glass Melting Furnaces and Internal Combustion Engines at Natural Gas Pipeline Stations," established RACT requirements for internal compression engines at natural gas pipeline stations with a capacity factor over 15 percent. It required these facilities to implement maximum hourly NO_x emission limits based on the number of engines at the facility. Facilities with five or fewer engines must meet a combined maximum hourly emission rate of 300 pounds per hour, while facilities with more than five engines must meet a combined maximum hourly emissions rate of 566 pounds per hour.

In 1999, these engines became subject to the NO_x SIP Call[5] if their emissions exceeded one or more tons per day in 1995 or 1996. COMAR 26.11.29.05B&C is now applicable to these sources. These engines must meet the following standards based on engine type or achieve a 90% reduction from 1995 emissions:

Engine Type	Size (Brake HP)	Standard (15% oxygen)
Spark Ignition rich burn	2400 HP or greater	110 ppmv
Spark Ignition lean burn	2400 HP or greater	125 ppmv
Diesel	3100 HP or greater	175 ppmv
Dual fuel	4400 HP or greater	125 ppmv

Cost Effectiveness Estimates

The U.S. EPA's Alternative Control Techniques for Stationary Reciprocating Internal Combustion Engines, published in 1993, describes the costs of various NO_x controls applicable to stationary internal combustion engines. The cost effectiveness of each control varies from a few hundred to several thousands dollars per ton of NO_x removed depending on the type, size, and operating hours of the engine. The cost information in the ACT document is reported in 1993 dollars. The Marshall and Swift Installed Equipment Cost Indices for the years 1993 (964) and 2011 (1569) was used to arrive at current dollar values.

Based on the ACT, there are a number of control options available which achieve the control levels proposed in this rulemaking. The cost effectiveness ranges from $265 to $9,702/ton of NO_x removed, based on the total annual cost divided by total annual NO_x reductions.

Recommendation

The current requirements in COMAR 26.11.29.05 represents RACT for this source category for the 0.08 ppm O_3 NAAQS.

Rationale

Both Transco and Texas Eastern were affected by the NO_x SIP Call requirements. Transco modified its engines to meet the requirements of this regulation while Texas Eastern installed NO_x controls (high pressure fuel injection) on both engines – one subject to the regulation and one not at approximately the same time in 2002. Only the affected engine is required to meet the NO_x emission standard.

Based upon this information, the current limits and standards are achievable and economically feasible and thus constitute RACT for this category.

[5] On May 31, 2010 the NOx SIP Call requirements for internal combustion engines located at natural gas pipeline compression stations were moved from COMAR 26.11.29.15 and re-codified under a new regulation – COMAR 26.11.29.05 (*NOx Emissions from Natural Gas Pipeline Compression Stations*).

3. Adoption of Revised and/or New RACT Requirements

3.1. Adoption of Revised and/or New VOC RACT Requirements

As indicated in Table 1 above, many of Maryland's VOC RACT controls (i.e., sections in COMAR 26.11.13 and 26.11.19, "Volatile Organic Compounds from Specific Processes") were implemented in the 1990s to meet relevant requirements specified in the CAA and EPA guidance documents. Several sections of COMAR 26.11.19 have been revised to incorporate new or recently revised CTGs.

The revised regulations incorporating recent CTGs in COMAR 26.11.19 include the following:

.06	Large Appliance Coating
.07	Paper Film and Foil Coating
.07-2	Plastic Parts and Business Machines Coating
.09-1	Industrial Solvent Cleaning
.10	Flexographic and Rotogravure Printing
.10-1	Flexible Packaging Printing
.13	Drum and Pail Coating
.33	Flat Wood Paneling

3.2. Revised and/or New NO_x RACT Requirements

As indicated in Table 2 above, some of Maryland's NO_x RACT controls were implemented in the 1990s to meet relevant requirements specified in the CAA and EPA's regional NO_x control programs. The repeal of the NO_x SIP Call required several sections of COMAR to be revised to maintain the requirements of the SIP Call. COMAR 26.11.14 and 26.11.29 were revised to incorporate NO_x SIP Call requirements for both trading and non-trading sources. Electric generating sources are subject to new state and regional NO_x control programs which may be more stringent than RACT.

Maryland certifies that COMAR 26.11.09.08, along with the NO_x requirements in COMAR 26.11.14 and 26.11.29, appropriately implement NO_x RACT controls in Maryland under the 0.08 ppm 8-hour ozone NAAQS. Maryland has developed or is currently developing beyond-RACT provisions to aid in attainment and maintenance of the 8-hour NAAQS. While not the subject of this RACT submittal, these beyond-RACT controls include:

- COMAR 26.11.27 "Emission Limitations for Power Plants." This regulation imposes beyond-RACT NO_x controls on large coal fired EGUs through stringent annual and ozone season caps.
- COMAR 26.11.09.08-1 "Additional NO_x Requirements." This regulation imposes beyond-RACT NO_x controls on stationary generators used at times other than times of emergency.
- Peaking Turbine Regulation. This regulation is under development, and is anticipated to impose beyond-RACT NO_x controls on peaking units, in order to address the high peak ozone day emissions from these units.
- Internal Combustion Engines at Natural Gas Compression Stations. This regulation is under development, and is anticipated to impose beyond RACT NO_x controls on this equipment.

4. Control Technique Guideline (CTG) Requirements Not Adopted in Maryland

These CTGs have not been adopted in Maryland because there are no major sources of this type:

- Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977 (Group I).
- Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry, EPA-450/3-84-015, December 1984 (Group III).
- Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins, EPA-450/3-83-008, November 1983 (Group III).
- Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry, EPA-450/4-91-031, August 1993.
- Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations, EPA-453/R-96-007, April 1996.
- Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants, EPA-450/2-83-007, December 1983 (Group III).
- Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978 (Group II).
- Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984 (Group III).
- Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating of Insulation of Magnet Wire, EPA-450/2-77-033, December 1977 (Group I).
- Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires, EPA-450/2-78-030, December 1978. (Group II).
- Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating), 61 FR-44050 8/27/96, August 1996.

5. MDE Internal Consultation Process and EPA's RACT/ BACT Clearinghouse

Maryland has over 600 high impact facilities that have been permitted by MDE's Air and Radiation Management (ARMA) Permits Program. On an annual basis the MDE Air and Radiation Management Compliance Program performs approximately 2,000 inspections and audits. With the expertise of over 18,000 issued permits, a consultation process with ARMA's Permits and Compliance Programs was conducted during the development of this SIP, for information regarding the potential for RACT enhancement. There were no potential RACT enhancements identified during this consultation process. A copy of the survey used for this consultation process is included in Appendix B of this report.

As part of its comprehensive review process to assure that all relevant RACT standards have been addressed and met, MDE reviewed EPA's RACT/BACT Clearinghouse database. Through its review, MDE did not observe any discrepancies between the database and the information generated from within the department. Maryland chose several of its largest emission source

categories and provided in Appendix A of this report, copies of the RACT/BACT Clearinghouse Data sheets for review.

6. Reference Documents

6.1. Control Techniques Guidelines (CTG), Alternative Control Techniques (ACT) Documents, and Additional Reference Documents

U.S. EPA's Control Techniques Guidelines documents, Alternative Control Techniques documents, and Additional Reference Documents, cited in this SIP Submittal for Determination of RACT Controls of VOC and NO_x Emissions from Stationary Sources, are listed below.

Control Technique Guidelines:

1. Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals, EPA-450/2-77-026, December 1977 (Group I).
2. Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977 (Group I).
3. Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations, EPA-453/R-97-004, December 1997.
4. Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners, EPA-450/3-82-009, September 1982 (Group III).
5. Control of Volatile Organic Compound Emissions from Offset Lithographic Printing (CTG Draft), EPA-453/D-95-001, September 1993.
6. Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in SOCMI, EPA-450/4-91-031, August 1993.
7. Control of Volatile Organic Compound Equipment Leaks from Synthetic Organic Chemical Manufacturing and Polymer Manufacturing Equipment, EPA-450/3-83-006, Nov. 1983.
8. Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051, December 1978 (Group II).
9. Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978 (Group II).
10. Control of Volatile Organic Compounds from Use of Cutback Asphalt, EPA-450/2-77-037, December 1977 (Group I).
11. Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77-035, December, 1977 (Group I).
12. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977 (Group I).
13. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume III: Surface Coating of Metal Furniture, EPA-450/2-77-032, December 1977.
14. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume V: Surface Coating of Large Appliances, EPA-450/2-77-034, December 1977 (Group I).
15. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating of Insulation of Magnet Wire, EPA-450/2-77-033, December 1977 (Group I).

16. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VI: Surface Coating of Miscellaneous Metal Parts and Products, EPA-450/2-78-015, June 1978 (Group II).
17. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VII: Factory Surface Coating of Flat Wood Paneling, EPA-450/2-78-032, June 1978 (Group II).
18. Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VIII: Graphic Arts-Rotogravure and Flexography, EPA-450/2-78-033, December 1978 (Group II).
19. Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, EPA-450/2-78-029, December 1978 (Group II).
20. Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks, EPA-450-2/78-047, December 1978 (Group II).
21. Control of Volatile Organic Emissions from Solvent Metal Cleaning, EPA-450/2-77-022 November 1977 (Group I).
22. Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed Roof Tanks, EPA-450/2-77-036, December 1977 (Group I).
23. Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating), 61 FR-44050 8/27/96, August 1996.
24. Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975 (Group I).

Alternative Control Techniques Documents:

1. Alternative Control Techniques (ACT) document: Automobile Refinishing, EPA-453/R-94-031, April 1994.
2. Alternative Control Techniques (ACT) document: Control of Volatile Organic Compound Emissions from Batch Processes, EPA-453/R-93-017, February 1994.
3. Alternative Control Techniques (ACT) document: Halogenated Solvent Cleaners, EPA-450/3-89-030, August 1989.
4. Alternative Control Techniques (ACT) document: Industrial Cleaning Solvents, EPA-453/R-94-015, February 1994.
5. Alternative Control Techniques (ACT) document: NO_x Emissions from Process Heaters (Revised), EPA-453/R-93-034, September 1993.
6. Alternative Control Techniques (ACT) document: NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers, EPA-453/R-94-022, March 1994.
7. Alternative Control Techniques (ACT) document: NO_x Emissions from Glass Manufacturing, EPA-453/R-94-037, June 1994.
8. Alternative Control Techniques (ACT) document: NO_x Emissions from Utility Boilers, EPA-453/R-94-023, March 1994.
9. Alternative Control Techniques (ACT) document: NO_x Emissions from Stationary Gas Turbines, EPA-453/R-93-007, January 1993.
10. Alternative Control Techniques (ACT) document: NO_x Emissions from Stationary Reciprocating Internal Combustion Engines, EPA-453/R-93-032, 1993.
11. Alternative Control Techniques (ACT) document: NO_x Emissions from Iron and Steel Mills, EPA-453/R-94-065, September 1994.
12. Alternative Control Techniques (ACT) document: Offset Lithographic Printing, EPA-453/R-94-054, June 1994.
13. Alternative Control Techniques (ACT) document: Reduction of Volatile Organic Compound Emissions from Automobile Refinishing, EPA-450/3-88-009, October 1988.

14. Alternative Control Techniques (ACT) document: Surface Coating of Automotive/Transportation and Business Machine Plastic Parts, EPA-453/R-94-017, February 1994.
15. Alternative Control Techniques (ACT) document: Volatile Organic Liquids Storage in Floating and Fixed Roof Tanks, EPA-453/R-94-001, February 1994.
16. NO_x Control Technologies for the Cement Industry: Final Report; EPA-457/R-00-002, September 2000. This document is an update to "Alternative Control Techniques Document—NO_x Emissions from Cement Manufacturing," EPA-453/R-94-004, March 1994.

Additional Reference Documents

1. 40 CFR 60 Subpart Ce, "Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators," Maximum Achievable Control Technology (MACT) determination for NOx," (62 FR 48379, September 15, 1997).
2. NESCAUM, Stationary Source Committee Recommendation on NO_x RACT for Utility Boilers, 8/12/1992.
3. NESCAUM, Stationary Source Committee Recommendation on NO_x RACT for Industrial Boilers, Internal Combustion Engines and Combustion Turbines, 9/18/1992.
4. NESCAUM, Status Report on NO_x Controls for Gas Turbines, Cement Kilns, Industrial Boilers, Internal Combustion Engines, December 2000.
5. "NO_x Policy Document for the Clean Air Act of 1990," EPA-452/R-96-005, March 1996.
6. Ozone Transport Commission. "Identification and Evaluation of Candidate Control Measures" Final Technical Support Document, prepared by MACTEC, February 28, 2007.
7. Sourcebook: NO_x Control Technology Data, USEPA, July 1991.
8. State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, USEPA.
9. State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, USEPA, 10/27/1995.
10. Stationary Reciprocating Internal Combustion Engines – Updated Information on NO_x Emissions and Control Techniques – Revised Final Report, USEPA, 9/1/2000.
11. STAPPA/ALAPCO, Controlling Emissions of Nitrogen Oxides from Existing Utility Boilers Under Title I of the Clean Air Act: Options and Recommendations, 4/27/1992.
12. USEPA, Memorandum Subject: De Minimis Values for NO_x RACT, from G.T. Helms, Ozone Policy and Strategies Group, dated 1/1/1995.
13. USEPA, Memorandum Subject: Fuel Switching to Meet the Reasonably Available Control Technology (RACT) Requirements for Nitrogen Oxides (NOx), Michael H. Shapiro, EPA Office of Air and Radiation, 7/30/1993.
14. USEPA, Memorandum Subject: Nitrogen Oxides (NOx) Questions from Ohio EPA, Tom Helms, Chief Ozone/Carbon Monoxide Programs Branch, (no date cited, references 11/30/1993 questions).
15. USEPA, NO_x Emissions from Stationary Internal Combustion Engines, October 2003.
16. USEPA, Summary of NO_x Control Technologies and their Availability and Extent of Application, February 1992.
17. USEPA, Summary of State/Local NO_x Regulations for Stationary Sources, 2004.

6.2. Maryland VOC Regulations Containing RACT

COMAR 26.11.06.06: "Control of Volatile Organic Compound Emissions"
COMAR 26.11.10.01, .06, .07: "Control of Iron and Steel Production Installations"
COMAR 26.11.11: "Control of Petroleum Products Installations, Including Asphalt Paving and Asphalt Concrete Plants"
COMAR 26.11.13.01, .03, .04, .05, and .08: "Control of Gasoline and Volatile Organic Compound Storage and Handling"
COMAR 26.11.14.01 and .06: "Control of Emissions from Kraft Pulp Mills"
COMAR 26.11.19: "Volatile Organic Compounds from Specific Processes"
COMAR 26.11.24: "Stage II Vapor Recovery at Gasoline Dispensing Facilities"

http://www.dsd.state.md.us/comar/
(Note: Hard copy of these regulations available upon request.)

6.3. Maryland NO_x Regulations Containing RACT

COMAR 26.11.09.08: "Control of NO_x Emissions for Major Stationary Sources"
COMAR 26.11.14.07: "Control of NO_x Emissions from Fuel Burning Equipment"
COMAR 26.11.29.03: "Emission Reduction Requirements for Portland Cement Manufacturing Plants"
COMAR 26.11.29.05: "Emission Reduction Requirements for Stationary Internal Combustion Engines at Natural Gas Pipeline Compression Stations"

http://www.dsd.state.md.us/comar/
(Note: Hard copy of these regulations available upon request.)

Appendix A: RACT/BACT Clearinghouse Data Sheets

EPA INFORMATION ON INDUSTRIAL/COMMERCIAL/INSTITUTIONAL BOILERS & PROCESS HEATERS 100-250 MMBtu/hr

Regulation Details

ID/Regulation Name & Industry Sector: RUS-0248 INDUS./COMMER./INSTIT. BOILERS & PROCESS HEATERS

SIC: SEE NOTE	**Basis:** MACT
State: US	**U.S. EPA Region:** 0
Regulation Status: IN EFFECT	
Entry Date: 02/18/2003	**Last Update Date:** 06/27/2005
Agency: OT002 EPA REGION I	
Agency Contact: 1 **Phone:** (919) 541-0800	

CFR Citation/Regulation No.: 40 CFR PART 63 SUBPART DDDDD
BID Ref.:
BID Title:
NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS, SUMMARY OF PUBLIC COMMENTS AND RESPONSES

On-Line Location of Regulation:	
Regulation Effective Date Regulation Effective Legal Ref.	
Tech Support Doc. Date: / /	**Regulation Propose Date:** 01/13/2003 68 FR 1660
Economic Analysis Date: / /	**Promulgation Date:** 09/13/2004 69 FR 55218
Risk Analysis Date: / /	**Regulation Effective Date:**
Public Notice Date: / /	

RACT EPA INFORMATION FOR RECIPROCATING INTERNAL COMBUSTION ENGINES

Regulation Details

ID/Regulation Name & Industry Sector: RUS-0241 RECIPROCATING INTERNAL COMBUSTION ENGINES

SIC: 4911	**Basis:** MACT
State: US	**U.S. EPA Region:** 0
Regulation Status: IN EFFECT	
Entry Date: 12/20/2002	**Last Update Date:** 06/23/2005
Agency: OT002 EPA REGION I	
Agency Contact: 1 **Phone:** (919) 541-0800	
CFR Citation/Regulation No.: 40 CFR PART 63 SUBPART ZZZZ	

BID Ref.:
BID Title:
NATIONAL EMISSION STANDARDS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES, SUMMARY OF PUBLIC COMMENTS AND RESPONSES

On-Line Location of Regulation:	
Regulation Effective Date	**Regulation Effective Legal Ref.**
Tech Support Doc. Date: / /	**Regulation Propose Date:** 12/19/2002 67 FR 77830
Economic Analysis Date: 11/01/02	**Promulgation Date:** 06/15/2004 69 FR 33474
Risk Analysis Date: / /	**Regulation Effective Date:**
Public Notice Date: / /	
Hearing? No	

RACT EPA INFORMATION ON LARGE MUNICIPAL WASTE COMBUSTORS

Process Details

Regulation Name/Industry Sector: **LARGE MUNICIPAL WASTE COMBUSTORS (MWC)**
RBLC ID: **RUS-0189**
Process Name/Description: **MWC, MASS BURN WATERWALL AND REFRACTORY, EXISTING**

Throughput / Throughput Unit:	**250 T/D (SEE PROCESS NOTE)**
Process Type Codes:	**21.400,21.900,21.999**

Pollutant List		
Pollutant	Primary Emission Limit	Basis
PM	**0 SEE P2 NOTE**	**FIPMACT**
NO_X	**205 PPMV @ 7% OXYGEN**	**FIPMACT**
CO	**100 PPMV @ 7% OXYGEN**	**FIPMACT**
DIOXINS/FURANS	**60 NG/DSCM @ 7% OXYGEN**	**FIPMACT**
PM	**0.012 GR/DSCF @ 7% OXYGEN**	**FIPMACT**
OPACITY	**10 % OPACITY**	**FIPMACT**
CD	**18 GR/MMDSCF @ 7% OXYGEN**	**FIPMACT**
PB	**200 GR/MMDSCF @ 7% OXYGEN**	**FIPMACT**
HG	**35 GR/MMDSCF @ 7% OXYGEN**	**FIPMACT**
SO2	**29 PPMV @ 7% OXYGEN**	**FIPMACT**
HCL	**29 PPMV @ 7% OXYGEN**	**FIPMACT**

Process Notes:	**THE FED. PLAN APPLIES TO EXISTING MWC UNIT W/CAPACITIES TO COMBUSTS > 250T/D OF MSW UNLESS THE UNIT IS SUBJECT TO A SECTION 111(D)/129 STATE PLAN THAT AHS BEEN APPROVED BY EPA AND IS CURRENTLY EFFECTIVE. MASS BURN WATERW. IS A FIELD-ERECTED UNIT COMBUSTS MSW IN A WATERWALL FURN. MASS BURN REFRAC. IS A FIELD-EREC. UNIT COMB. MSW IN A REFRAC. WALL F.**

RACT EPA INFORMATION ON GAS FIRED 10-100 MMBtu/hr BOILERS

Regulation Details

ID/Regulation Name & Industry Sector: RUS-0070 SMALL INDUS-COMMER-INSTITU STEAM GEN UNITS

SIC: 3569	**Basis:** MACT
State: US	**U.S. EPA Region:** 0
Regulation Status: IN EFFECT	
Entry Date: 06/22/1994	**Last Update Date:** 06/14/2006
Agency: OT002 EPA REGION I	
Agency Contact: 1 **Phone:** (919) 541-0800	

CFR Citation/Regulation No.: 40 CFR PART 60 SUBPART DC	
BID Ref.:	
BID Title:	
On-Line Location of Regulation:	
Regulation Effective Date	**Regulation Effective Legal Ref.**
Tech Support Doc. Date: / /	**Regulation Propose Date:** 06/09/1989
Economic Analysis Date: / /	**Promulgation Date:** 09/12/1990 55 FR 37683
Risk Analysis Date: / /	**Regulation Effective Date:**
Public Notice Date: / /	
Hearing? Yes	

40 CFR Part 60 Subpart Dc - Small Industrial-Commercial Institutional Steam Generating Units between 10 and 100 MMBtu/hr for which construction is commenced after 6/9/89. Amended 5/8/1996 (61 FR 20736) to exempt boilers during periods of combustion research. Amended 2/12/1999 (64 FR 7465) to reduce reporting/recordkeeping burden.

RACT EPA INFORMATION ON BOILERS GREATER THAN 250 MMBtu/hr

Regulation Details

ID/Regulation Name & Industry Sector: RUS-0251 COAL- OR OIL-FIRED ELEC. UTILITY STEAM GEN. UNITS

SIC: 4911	**Basis:** NESHAP
State: US	**U.S. EPA Region:** 0
Regulation Status: PROPOSED	
Entry Date: 03/03/2004	**Last Update Date:** 01/11/2005
Agency: OT002 EPA REGION I	
Agency Contact: 1 **Phone:** (919) 541-0800	

CFR Citation/Regulation No.: 40 CFR PART 63 SUBPART UUUUU	
BID Ref.:	
BID Title:	
NO BID IS SPECIFIED.	
On-Line Location of Regulation:	
Regulation Effective Date Regulation Effective Legal Ref.	
Tech Support Doc. Date: 02/27/2004	**Regulation Propose Date:** 01/30/2004 69 FR 4665
Economic Analysis Date: 01/28/2004	**Promulgation Date:**
Risk Analysis Date: / /	**Regulation Effective Date:**
Public Notice Date: 02/02/2004	
Hearing? Yes	

RACT EPA INFORMATION ON KRAFT PULP MILLS

Regulation Name/Industry Sector: KRAFT PULP MILLS
RBLC ID: RUS-0013
Process Name/Description: FURNACE, RECOVERY

Throughput / Throughput Unit:	
Process Type Codes:	30.002,30.211,30.219

Pollutant List		
Pollutant	**Primary Emission Limit**	**Basis**
PM	0.044 GR/DSCF @ 8% O2	MACT
VE	35 % OPACITY	MACT
TRS	5 PPM @ 8% O2	MACT
TRS	25 PPM @ 8% O2	MACT

Process Notes:	CONTROL COSTS FOR ESP/DIRECT CONTACT RECOVERY FURNACE, PLANT CAPACITY 1000 TON/DAY AIR DRIED PULP. ANNUAL PRODUCT RECOVERY CREDIT $1,784,000

RACT EPA INFORMATION ON LARGE HOSPITAL MEDICAL WASTE INCINERATORS

Process Details

Regulation Name/Industry Sector: HOSPITAL/MEDICAL/INFECTIOUS WASTE INCINERATORS
RBLC ID: RUS-0190
Process Name/Description: HOSPITAL/MEDICAL/INFECTIOUS WASTE INCINE., LARGE

Throughput / Throughput Unit:	500 LB/H (SEE PROC NOTE)
Process Type Codes:	21.300

Pollutant List

Pollutant	Primary Emission Limit	Basis
NO_X	250 PPMV @ 7% OXYGEN	FIPMACT
PB	1.2 MG/DSCM @ 7% OXYGEN	FIPMACT
CD	0.16 MG/DSCM @ 7% OXYGEN	FIPMACT
HG	0.55 MG/DSCM @ 7% OXYGEN	FIPMACT
SO2	55 PPMV @ 7% OXYGEN	FIPMACT
PM	34 MG/DSCM @ 7% OXYGEN	FIPMACT
OPACITY	10 % OPACITY	FIPMACT
CO	40 PPMV @ 7% OXYGEN	FIPMACT
DIOXINS/FURANS	125 NG/DSCM @ 7% OXYGEN	FIPMACT
HCL	100 PPMV @ 7% OXYGEN	FIPMACT

Process Notes:	HMIWI W/MAX DESIGN WASTE BURNING CAPACITY >50 LB/H; OR CONTINUOUS OR INTERMITTENT HMIWI W/MAX CHARGE RATE >500 LB/H; OR BATCH HMIWI W/MAX CHARGE RATE >4,000 LB/D ARE SUBJECTED TO THIS SUBPART. GOOD COMBUSTION PRACTICE (GCP) IS REQUIRED.

RACT EPA INFORMATION ON PAPER COATING

Regulation Name/Industry Sector: PAPER SURFACE COATING
RBLC ID: RUS-0141
Process Name/Description: PAPER COATING LINE

Throughput / Throughput Unit:		**Pollutant List**		
		Pollutant	**Primary Emission Limit**	**Basis**
Process Type Codes:	41.018	VOC	0.35 KG/L COATING MINUS WATER	CTG

Process Notes:	INCLUDES ALL COATINGS PUT ON PAPER, PRESSURE SENSITIVE TAPES REGARDLESS OF SUBSTRATE (INCL. PAPER, FABRIC OR PLASTIC FILM) AND RELATED WEB COATING PROCESSES ON PLASTIC FILM SUCH AS TYPEWRITER RIBBONS, PHOTOGRAPHIC FILM, AND MAGNETIC TAPE; DECORATIVE COATINGS ON METAL FOIL SUCH AS GIFT WRAP AND PACKAGING.

RACT EPA INFORMATION ON SOLVENT EXTRACTION FOR VEGETABLE OIL PRODUCTION

Regulation Name/Industry Sector: SOLVENT EXTRACTION FOR VEGETABLE OIL PRODUCTION
RBLC ID: RUS-0196
Process Name/Description: CORN GERM DRY MILLING (EXISTING & NEW)

Throughput / Throughput Unit:	
Process Type Codes:	70.300,70.320

Pollutant List

Pollutant	Primary Emission Limit	Basis
HAP	1 COMPLIANCE RATIO	MACT

Process Notes:	CORN GERM DRY MILLING MEANS A SOURCE THAT PROCESSES CORN GERM THAT HAS BEEN SEPARATED FROM THE OTHER CORN COMPONENTS USING A DRY PROCESS OF MECHANICAL CHAFING AND AIR SIFTING. IF THE COMPLIANCE RATIO <= 1, THEN SOURCE WAS IN COMPLIANCE FOR THE PREVIOUS OPERATING MONTH. COMPLIANCE RATIO IS CALCULATED BY USING OILSEED SOLVENT LOSS FACTORS, THE WEIGHTED AVERAGE VOLUME FRACTION OF HAP IN SOLVENT AND THE TONS OF EACH TYPE OF LISTED OILSEED PROCESSED. OILSEED SOLVENT LOSS FACTOR FOR THIS PROCESS IS 0.7 GAL/T.

RACT EPA INFORMATION ON PORTLAND CEMENT PLANTS

Regulation Name/Industry Sector: PORTLAND CEMENT PLANTS
RBLC ID: RUS-0011
Process Name/Description: KILN

Throughput / Throughput Unit:	
Process Type Codes:	90.028

Pollutant List		
Pollutant	**Primary Emission Limit**	**Basis**
PM	0.3 LB/TON	NSPS
VE	20 % OPACITY	NSPS

Appendix B: Copy of MDE RACT Questionnaire

RACT SIP REVIEW for 8-HOUR OZONE STANDARD

A RACT analysis needs to be conducted for the 8 hour ozone standard on all CTG and all major non-CTG sources. Current information that has become available through technical/public review process is to be included in the analysis. The information requested here is to make the determination if changes to existing RACT requirements are feasible. The objective is to identify the categories of sources for which some of the information may already exist in compliance and permit programs. Based on the information, a demonstration can be made on the economical and technical feasibility of controls.

1. List the categories and subcategories of sources for which compliance or permitting work is carried out by you. (Example: types of cement plants, types of asphalt plants, gasoline terminals.)

2. List the categories for which there is a potential for improving RACT requirements based on your involvement with sources in the State. (Example: case scenarios that have wider possibilities than original purpose.)

3. For the categories in (1), are there changes in work or operational practices that currently allow sources to improve upon the control of emissions beyond existing requirement? (Example: material substitution at lower cost.)

For 4-6 below, please respond if this information is readily available.
4. Have there been instances with similar operations in other states that have required controls more restrictive than Maryland's?

5. Is there an analysis being conducted for the enhancement of controls for the categories in (1)? (Example: company or industry need or interest in feasibility of application.)

6. Have there been contacts with EPA or industry specialists on costs and feasibility of controls? Please include information on these contacts.

Appendix C: Major Sources of VOC and NO_x in Maryland and Applicable RACT Regulations

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
001-00015	MT. SAVAGE FIRE BRICK COMPANY	REFRACTORY MANUFACTURING PLANT	COMAR 26.11.01	3	1
013-00056	COLONIAL PIPELINE COMPANY	PETROLEUM PRODUCTS BREAKOUT TANK FARM	COMAR 26.11.03	0	41
003-00234	BITUMAR USA, INC.	PRODUCTS PLANT (6-	COMAR 26.11.06*	4	3
005-02320	SHIRE U.S. MANUFACTURING, INC.	PHARMACEUTICAL PROCESSING PLANT	COMAR 26.11.06*	2	1
013-00233	KINDER MORGAN OPERATING L.P.	GASOLINE AND FUEL OIL SEPARATION SYSTEM (9-0104)	COMAR 26.11.06*	5	0
013-00262	ALL COUNTY CREMATION SERVICES	CREMATORY	COMAR 26.11.06*	0	0
013-00292	FAMILY PET CREMATORY	ANIMAL CREMATORY (1-0007)	COMAR 26.11.06*	0	0
015-00002	AIR PRODUCTS POLYMERS, LP	ORGANIC CHEMICAL PRODUCT PLANT	COMAR 26.11.06*	1	4
015-00134	COMPOSITES USA, INC.	FIBER REINFORCED PLASTICS MANUFACTURING PLANT	COMAR 26.11.06*	0	1
021-00172	TAMKO ROOFING PRODUCTS, INC.	ASPHALT ROOFING PRODUCTS PLANT	COMAR 26.11.06*	11	14
025-00242	CITRUS & ALLIED ESSENCES, LTD	FLAVOR & FRAGRANCE MANU.	COMAR 26.11.06*	1	1
025-00525	WORTHINGTON ARMSTRONG VENTURE	ROLL FORMING LINES FOR STEEL GRIDS PRODUCTION	COMAR 26.11.06*	0	2
027-00055	OWENS CORNING TRUMBULL ASPHALT	ASPHALT ROOFING MANU.	COMAR 26.11.06*&.09	27	21
510-00355	EASTALCO ALUMINUM COMPANY	ALUMINA UNLOADING/LOADING FACILITY	COMAR 26.11.06*	0	0
510-01346	FURST BROTHERS COMPANY	PICTURE FRAME MANUFACTURER	COMAR 26.11.06*	0	7
510-02263	CSX TRANSPORTATION-COAL PIERS	COAL OR ORE LOADING OR UNLOADING TERMINAL	COMAR 26.11.06*	0	0
510-02310	CNX MAINE TERMINALS, INC.	COAL STORAGE & SHIPMENT TERMINAL	COMAR 26.11.06*	0	0
005-00184	NOXELL CORPORATION	COSMETICS MAN.	COMAR 26.11.06*	3	4
003-00118	W.T. BURNETT & COMPANY, INC.	POLYURETHANE FOAM MAN.	COMAR 26.11.06*	2	9
001-00199	MERRITT-ADAMS FUNERAL HOME	CREMATORY INCINERATOR (1-0014)	COMAR 26.11.08	0	0
001-00260	SCARPELLI FUNERAL HOME, P.A.	CREMATORY	COMAR 26.11.08	0	0
003-00023	VALLEY PROTEINS, INC.	RENDERING PLANT	COMAR 26.11.08	11	0
003-01180	DONALDSON FUNERAL HOME & CREMATORY	HUMAN (1-0058) & ANIMAL (1-0060) CREMATORIES	COMAR 26.11.08	0	0
003-01296	ANATOMY GIFTS REGISTRY	HUMAN REMAINS CREMATORY (1-0062)	COMAR 26.11.08		
005-00042	NORTHWEST HOSPITAL CENTER, INC.	MEDICAL WASTE INCINERATOR (2-0228)	COMAR 26.11.08	3	0

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
005-00400	FRANKLIN SQUARE HOSPITAL CENTER	MEDICAL WASTE INCINERATOR	COMAR 26.11.08	9	0
005-00702	NELSON COMPANY, THE	INDUSTRIAL WOOD WASTE INCINERATOR	COMAR 26.11.08	2	0
005-00936	METRO CREMATORY, INC.	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
005-01979	RUCK TOWSON FUNERAL HOME, INC.	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
013-00126	J.F. ELINE & SONS, INC.	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
015-00094	CECIL COUNTY S.P.C.A., INC.	ANIMAL CREMATORY INCINERATORS	COMAR 26.11.08	0	0
015-00203	R.T. FOARD FUNERAL HOME, P.A.	CREMATORY (1-0020)	COMAR 26.11.08	0	0
017-00059	HUNTT FUNERAL HOME & CREMATORY	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
019-00113	MID-SHORE CREMATORY	CREMATORY	COMAR 26.11.08	0	0
021-00131	FORT DETRICK	FUEL BURNING (OIL-FIRED) EQUIP, MED & GEN. WASTE INCINERATORS	COMAR 26.11.08	120	3
021-00194	RESTHAVEN MEMORIAL GARDENS,INC	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
021-00547	FREDERICK CREMATORY, INC.	CREMATORY (1-0030)	COMAR 26.11.08	0	0
021-00612	HEAVENLY DAYS CREMATORIUM LLC	FOUR ANIMAL CREMATORY INCINERATORS	COMAR 26.11.08		
025-00117	BECTON DICKINSON	ANIMAL CREMATORIUM INCINERATOR	COMAR 26.11.08	0	0
025-00225	BEL AIR VETERINARY HOSPITAL, INC.	ANIMAL CREMATORY INCINERATORS	COMAR 26.11.08	0	0
025-00380	EVANS FUNERAL CHAPEL-BEL AIR	CREMATORY (1-0038)	COMAR 26.11.08	0	0
029-00052	HUMANE SOCIETY OF KENT COUNTY	ANIMAL CREMATORY	COMAR 26.11.08	0	0
031-01394	HEAVENLY DAYS ANIMAL CREMATORY	ANIMAL CREMATORY INCINERATORS	COMAR 26.11.08	0	0
031-01651	MONTGOMERY CREMATORIUM, INC.	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
031-01718	MONT.CO.RESOURCE RECOVERY FAC.	MUNICIPAL WASTE COMBUSTOR / RESOURCE RECOVERY FACILITY (2-0132)	COMAR 26.11.08	1009	3
033-00478	FORT LINCOLN FUNERAL HOME	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
033-00667	BELTSVILLE AG. RESEARCH CENTER	ANIMAL WASTE INCINERATORS (TWO)	COMAR 26.11.08	11	1
033-00872	WESTERN BRANCH WWTP	WASTE WATER TREATMENT PLANT W/ SEWAGE SLUDGE INCINERATORS	COMAR 26.11.08	16	1
033-00875	PATUXENT WILDLIFE RESEARCH CTR	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	0	0
033-01317	LEE FUNERAL HOME, INC.	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
033-01338	CHAMBERS FUNERAL HOMES, P.A.	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
033-01359	FLECK FUNERAL HOME, INC.	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
033-01401	JO-RETT ANIMAL CLINIC	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	0	0
033-01826	ANIMAL HEALTH LAB-COLLEGE PARK	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	1	0
035-00025	ANIMAL HEALTH LAB-CENTREVILLE	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	0	0

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
035-00033	D.A. BRAMBLE-WYE MILLS	DRUM MIX ASPHALT CONCRETE PLANT	COMAR 26.11.08	3	z2
035-00039	CHESAPEAKE CREMATION CENTER	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
037-00052	BRINSFIELD-ECHOLS FUNERAL HOME	CREMATORY	COMAR 26.11.08	0	0
039-00052	SMITH ISLAND INCINERATOR	GENERAL WASTE INCINERATOR	COMAR 26.11.08	0	0
039-00131	PERDUE RESEARCH FARM #15	POULTRY CREMATION INCINERATOR (1-0003)	COMAR 26.11.08	0	0
039-00135	PERDUE RESEARCH FARM #17	POULTRY CREMATION INCINERATOR (1-0005)	COMAR 26.11.08	0	0
041-00062	TALBOT COUNTY HUMANE SOCIETY	ANIMAL CREMATORY INCINERATOR	COMAR 26.11.08	0	0
041-00067	WILDLIFE INTERNATIONAL LTD.	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	0	0
043-00122	WASHINGTON COUNTY HOSPITAL	MEDICAL WASTE INCINERATOR (2-0038)	COMAR 26.11.08	7	0
043-00200	MINNICH FUNERAL HOME	CREMATORY INCINERATOR	COMAR 26.11.08	0	0
043-00224	SMITHSBURG CREMATORY	CREMATORY INCINERATOR (1-0034)	COMAR 26.11.08	0	0
043-00430	AGAPE PET SERVICES, LLC	ANIMAL CREMATORY	COMAR 26.11.08	0	0
045-00096	ANIMAL HEALTH LAB-SALISBURY	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	1	0
045-00124	HOLLOWAY FUNERAL HOME, P.A.	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
045-00219	HUMANE SOCIETY OF WICOMICO COUNTY	ANIMAL CREMATORY INCINERATOR (1-0025)	COMAR 26.11.08	0	0
045-00255	PERDUE RESEARCH FARM #16	POULTRY CREMATION INCINERATOR (1-0026)	COMAR 26.11.08	0	0
047-00026	MERIAL SELECT, INC.	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	1	0
047-00163	PERDUE RESEARCH FARM #4	POULTRY CREMATION INCINERATOR (1-0013)	COMAR 26.11.08	0	0
047-00164	PERDUE RESEARCH FARM #22	POULTRY CREMATION INCINERATOR (1-0014)	COMAR 26.11.08	0	0
047-00180	WORCESTER COUNTY PET CREMATORY	PET / ANIMAL CREMATORY	COMAR 26.11.08	0	0
510-00001	JOHNS HOPKINS HOSPITAL-BLALOCK/BRADY	FUEL BURNING (GAS/OIL) EQUIPMENT*INCINERATOR SHUTDOWN 2002*	COMAR 26.11.08	140	3
510-00057	GREEN MOUNT CEMETERY	CREMATORY INCINERATORS	COMAR 26.11.08	0	0
510-01272	JOHNS HOPKINS-ROSS BUILDING	MEDICAL WASTE INCINERATOR (2-0244)	COMAR 26.11.08	0	0
510-01886	WHEELABRATOR BALTIMORE, L.P.	MUNICIPAL WASTE COMBUSTER (RATED AT 15OO TPD)	COMAR 26.11.08	1019	11
510-01952	MD S.P.C.A./BALTIMORE CITY,INC	ANIMAL CREMATORY INCINERATOR	COMAR 26.11.08	0	0
510-02298	NIA, GERONTOLOGY RESEARCH CNTR	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	0	0
510-02368	DHMH-PUBLIC HEALTH LABORATORY	PATHOLOGICAL WASTE INCINERATOR	COMAR 26.11.08	0	0
510-02929	MERCY MEDICAL CENTER	MEDICAL WASTE INCINERATOR	COMAR 26.11.08	2	0
510-02975	PHOENIX SERVICES L.P.	MEDICAL WASTE (REGIONAL) COMBUSTOR	COMAR 26.11.08	53	2
510-03032	UNIVERSITY OF MD BALTIMORE / MSTF	MEDICAL WASTE INCINERATORS (2-0252 & 2-0283)	COMAR 26.11.08	0	0
510-03259	BAYVIEW CREMATORY	CREMATORY (1-0470)	COMAR 26.11.08	0	0

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
510-03360	BALTIMORE CITY HEALTH DEPT	TWO ANIMAL CREMATORIES (2-0284 & 2-0285)	COMAR 26.11.08	0	0
510-02796	TRIGEN-SPRING GARDENS	FUEL BURNING (OIL-FIRED) EQUIPMENT	COMAR 26.11.09	86	2
001-00011	MEADWESTVACO CORPORATION	FINE PAPER & KRAFT PULP MILL W/ FUEL BURNING (GAS/OIL/COAL) EQUIPMENT	COMAR 26.11.09&VOC RACT	4175	404
001-00011EBP	LUKE PAPER COMPANY	NO. 2 RECOVERY BOILER / NO. 2 SMELT DISSOLVING TANK	COMAR 26.11.09		
003-00033	MARYLAND HOUSE OF CORRECTION	FUEL BURNING (NAT.GAS/OIL-FIRED) EQUIPMENT	COMAR 26.11.09	14	1
003-00310	U.S. NAVAL ACADEMY		COMAR 26.11.09	4	1
003-00316	U.S. COAST GUARD YARD	SHIP FABRICATING, REPAIR & ASSEMBLING FACILITY	COMAR 26.11.09 & 0.19	9	30
003-00317	NATIONAL SECURITY AGENCY	METAL RECLAMATION FURNACES & FUEL BURNING (OIL-FIRED) EQUIPMENT	COMAR 26.11.09	43	15
003-00322	FORT GEORGE G. MEADE	FEDERAL MILITARY FACILITY W/ BOILERS-GENERATORS-OTHER EQUIP	COMAR 26.11.09	9	2
003-00468	CONSTELLATION-FORT SMALLWOOD CONSTELLATION COMPLEX	ELECTRIC GENERATING STATION-FUEL BURNING (OIL/COAL) EQUIPMENT	COMAR 26.11.09, Fuel combustion	17934	162
005-00002	U OF MD-BALTIMORE COUNTY	FUEL BURNING (OIL-FIRED) EQUIPMENT	COMAR 26.11.09	1	0
005-00037	SPRING GROVE HOSPITAL CENTER	FUEL BURNING (NAT. GAS/#2 OIL-FIRED) EQUIPMENT	COMAR 26.11.09	2	0
005-00147	INTERNATIONAL STEEL GROUP	INTEGRATED IRON AND STEEL COMPLEX	COMAR 26.11.09 & .10.06	3303	307
005-00282	SOCIAL SECURITY ADMINISTRATION	FUEL BURNING EQUIPMENT	COMAR 26.11.09	49	1
009-00012	CALVERT CLIFFS NUCLEAR POWER	ELECTRIC GENERATING STATION-OIL FIRED EQUIPMENT	COMAR 26.11.09	11	0
013-00323	SAUDER MOULDINGS, INC.	WOOD MOULDING MANUFACTURING PROCESS WITH WOOD BOILER	COMAR 26.11.09		
017-00040	NAVAL DISTRICT WASHINGTON-INDIAN HEAD	FUEL BURNING (NO.6 OIL/COAL) EQUIPMENT/420 GALLON MIXER FACILITY	COMAR 26.11.09 & 0.19	150	17
021-00140	MOUNT SAINT MARY'S COLLEGE	FUEL BURNING (OIL-FIRED) EQUIP.	COMAR 26.11.09		
021-00599	FANNIE MAE DATA CENTER	TEN DIESEL GENERATOR SETS (9-0192 THRU 9-0201)	COMAR 26.11.09		
023-00081	TEXAS EASTERN TRANSMISSION	NATURAL GAS PIPELINE COMPRESSION STATION	COMAR 26.11.09	45	18
025-00005	J.M. HUBER CORPORATION	INORGANIC PIGMENT PRODUCTION PLANT	COMAR 26.11.09	12	1
025-00081	U.S. ARMY, APG-ABERDEEN AREA	MILITARY FACILITY WITH FUEL BURNING & MISC EQUIPMENT	COMAR 26.11.09	24	7
025-00434	UPPER CHESAPEAKE MED. CENTER	FUEL-BURNING (NAT. GAS/NO. 2 OIL) EQUIPMENT	COMAR 26.11.09		
027-00052	MD & VA MILK PRODUCERS	MILK SPRAY DRYING PROCESS	COMAR 26.11.09	14	1
027-00223	TRANSCONTINENTAL GAS PIPE LINE	INTERSTATE NATURAL GAS TRANSMISSION FACILITY	COMAR 26.11.09	1368	233

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
031-00323	NAT. INST. OF STANDARDS & TECH	FEDERAL FACILITY WITH FUEL BURNING EQUIPMENT	COMAR 26.11.09	29	2
031-00942	VERIZON-13101 COLUMBIA PIKE	EMERGENCY DIESEL ENGINE GENERATORS (4-1350 THRU 4-1352)	COMAR 26.11.09		
031-00983	WALTER REED FOREST GLEN ANNEX	RESEARCH CENTER WITH BOILERS/GENERATORS/GASOLINE DISPENSERS	COMAR 26.11.09	15	1
031-01124	NATIONAL NAVAL MEDICAL CENTER	FUEL BURNING (OIL-FIRED) EQUIPMENT	COMAR 26.11.09	7	5
031-01505	VERIZON-CHESAPEAKE COMPLEX	EMERGENCY POWER/PEAKING STATION	COMAR 26.11.09		
031-01565	COVANTA POWER PACIFIC, INC.	LANDFILL GAS ELECTRIC GENERATING STATION	COMAR 26.11.09	44	0
031-01875	IBM CORPORATION	EMERGENCY DIESEL GENERATORS	COMAR 26.11.09	2	0
031-01951	WASHINGTON GAS	NATURAL GAS & PROPANE PEAKING STATION & STORAGE FACILITY	COMAR 26.11.09	7	0
033-00010	U OF MD-COLLEGE PARK	COGENERATION CENTRAL STEAM PLANT	COMAR 26.11.09	98	33
033-00655	ANDREWS AIR FORCE BASE	BOILERS / DIESEL GENERATORS / PAINT BOOTH / FUEL STORAGE & DISPENSING	COMAR 26.11.09	23	2
033-00675	NASA GODDARD SPACE FLIGHT CNTR	LABORATORY RESEARCH FACILITY W/FUEL BURNING & PROCESS EQUIPMENT	COMAR 26.11.09	11	2
033-01522	P.G. COUNTY CORRECTIONAL FACILITY	FUEL BURNING	COMAR 26.11.09	25	1
037-00017	NAVAL AIR STATION	MILITARY FACILITY WITH OPERATIONS FOR NAVAL AIRCRAFTS	COMAR 26.11.09	29	29
039-00017	CONECTIV DELMARVA-CRISFIELD	ELECTRIC GENERATING STATION-FUEL BURNING (OIL) EQUIPMENT	COMAR 26.11.09	127	4
039-00055	EASTERN CORRECTIONAL INSTITUTE	CO-GENERATION PLANT, WOODCHIP-FIRED BOILERS, WWTP	COMAR 26.11.09	42	7
039-00062	A & N ELECTRIC COOPERATIVE	ELECTRIC GENERATING STATION-FUEL BURNING (OIL) EQUIPMENT	COMAR 26.11.09	3	0
041-00029	EASTON UTILITIES-WASHINGTON ST	ELECTRIC GENERATING STATION-FUEL BURNING (NAT. GAS/OIL) EQUIPMENT	COMAR 26.11.09	229	6
041-00069	EASTON UTILITIES-AIRPORT PARK	ELECTRIC GENERATING STATION-FUEL BURNING (NAT. GAS/OIL) EQUIPMENT	COMAR 26.11.09	223	6
043-00005	ALLEGHENY ENERGY /R. PAUL SMITH	ELECTRIC GENERATING STATION-FUEL BURNING (COAL) EQUIPMENT	COMAR 26.11.09	704	5
043-00006	MACK TRUCKS, INC.	TRUCK ENGINE & TRANSMISSION MANUFACTURING FACILITY	COMAR 26.11.09	129	10
043-00127	MD CORRECTIONAL TRAINING CNTR	FUEL BURNING (NAT. GAS/OIL-FIRED) EQUIPMENT	COMAR 26.11.09	15	0
047-00044	BERLIN TOWN POWER PLANT	ELECTRIC GENERATING STATION-FUEL BURNING (OIL) EQUIPMENT	COMAR 26.11.09	32	1
510-00076	W.R. GRACE AND COMPANY	SILICA, ALUMINA BASED INORGANIC CHEMICALS MANUFACTURING	COMAR 26.11.09	116	6
510-00077	JOHNS HOPKINS-HOMEWOOD CAMPUS	FUEL BURNING EQUIPMENT	COMAR 26.11.09	18	1

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
510-00109	MILLENNIUM INORGANIC CHEMICALS	TITANIUM DIOXIDE PIGMENT PLANT	COMAR 26.11.09	75	3
510-00111	PEMCO CORPORATION	FRIT MANUFACTURING PLANT	COMAR 26.11.09	75	3
510-00121	UNILEVER HOME & PERSONAL CARE	SOAP AND DETERGENT PRODUCTION PLANT	COMAR 26.11.09	7	3
510-00265	CONSTELLATION POWER-PHILAD. ROAD	ELECTRIC GENERATING STATION-FUEL BURNING (OIL) EQUIPMENT	COMAR 26.11.09	52	0
510-00314	TATE & LYLE N. AMERICAN SUGARS	FUEL BURNING OIL	COMAR 26.11.09	352	7
510-00335	PEPSI-COLA	FUEL BURNING (NO. 2 OIL)	COMAR 26.11.09		
510-00354	GM TRUCK & BUS GROUP	AUTOMOBILE & TRUCK	COMAR 26.11.09 Shutdown	45	265
510-00651	TRIGEN-CENTRAL AVENUE	STEAM GENERATING	COMAR 26.11.09	56	2
510-00660	TRIGEN ENERGY-SETHLOW	FUEL BURNING (NATURAL GAS FIRED) EQUIPMENT	COMAR 26.11.09	2	0
510-01043	SINAI HOSPITAL OF BALTIMORE	FUEL BURNING	COMAR 26.11.09	11	1
510-01045	MORGAN STATE UNIVERSITY	FUEL BURNING (OIL-FIRED)	COMAR 26.11.09	4	0
510-01158	JOHNS HOPKINS-BAYVIEW CAMPUS	FUEL BURNING (OIL-FIRED)	COMAR 26.11.09	17	1
510-03078	TRIGEN-W. SARATOGA STREET	FUEL-BURNING (OIL/NAT. GAS) EQUIPMENT (5-1260,1261,1262,1263 & 1264)	COMAR 26.11.09	15	0
510-03155	V.A. MEDICAL CENTER	EMERGENCY STANDBY DIESEL GENERATORS (4-3025 TO 4-3030)	COMAR 26.11.09	1	0
510-03237	TRIGEN-INNER HARBOR EAST	FUEL BURNING (NATURAL GAS) EQUIPMENT	COMAR 26.11.09	2	0
510-03254	MD DEPT. OF GENERAL SERVICES	NATURAL GAS-FIRED STAND-BY GENERATORS	COMAR 26.11.09		
510-03267	MARYLAND STADIUM AUTHORITY	EMERGENCY/PEAK SHAVING ELECTRICAL GENERATORS	COMAR 26.11.09		
045-00042	PERDUE FARMS, INC.	VEGETABLE OIL REFINING	COMAR 26.11.09 &VOC SIP	115	268
045-00129	J. V. WELLS, INC.	WOOD WASTE FIRED BOILER (3-0009)	COMAR 26.11.09		
005-00302	BALTIMORE GALVANIZING CO.,INC.	GALVANIZING PLANT	COMAR 26.11.12	1	0
510-00091	SOUTHERN GALVANIZING CO., THE	GALVANIZING PLANT	COMAR 26.11.12	1	0
003-00309	BP PRODUCTS NORTH AMERICA	BULK GASOLINE TERMINAL	COMAR 26.11.13	0	41
037-00001	SUPPORT TERMINAL-PINEY POINT	BULK LIQUID STORAGE & DISTRIBUTION FACILITY	COMAR 26.11.13	34	2
045-00099	CATO, INC.	GASOLINE TERMINAL WITH LOADING RACK CONTROL	COMAR 26.11.13	2	20
045-00156	SUPPORT TERMINAL-SALISBURY	BULK GASOLINE STORAGE TERMINAL	COMAR 26.11.13	1	13
510-00119	CITGO PETROLEUM CORPORATION	BULK PETROLEUM MARKETING TERMINAL	COMAR 26.11.13	6	41
510-00677	PETROLEUM FUEL & TERMINAL CO.	BULK PETROLEUM MARKETING TERMINAL	COMAR 26.11.13	0	47
510-00703	SUNOCO PARTNERS & TERMINALS	BULK GASOLINE TERMINAL	COMAR 26.11.13	0	45

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
510-00728	MOTIVA ENTERPRISES, LLC	BULK GASOLINE TERMINAL	COMAR 26.11.13	0	71
510-00730	CENTER POINT TERMINAL BALTIMORE	GASOLINE TERMINAL WITH LOADING RACK CONTROL	COMAR 26.11.13	0	24
510-00918	AMERADA HESS CORPORATION	BULK GASOLINE TERMINAL	COMAR 26.11.13 & .09	27	100
510-01923	PETROLEUM FUEL & TERMINAL CO.	BULK GASOLINE TERMINAL	COMAR 26.11.13	7	13
510-02091	SUPPORT TERMINAL-BALTIMORE	BULK LIQUID TERMINAL WITH VOC STORAGE TANKS	COMAR 26.11.13	7	3
510-01665	PQ CORPORATION, THE	SODIUM SILICATE GLASS MANUFACTURING PLANT	COMAR 26.11.25	67	3
001-00203	AES WARRIOR RUN, LP	ELECTRIC COGENERATION PLANT-FUEL BURNING EQUIPMENT	COMAR 26.11.29	476	1
005-00076	CONSTELLATION POWER-NOTCH CLIFF	ELECTRIC GENERATING STATION-FUEL BURNING (NAT. GAS) EQUIPMENT	COMAR 26.11.29	12	0
005-00078	CONSTELLATION POWER-RIVERSIDE	ELECTRIC GENERATING STATION-FUEL BURNING (OIL) EQUIPMENT	COMAR 26.11.29	45	1
005-00079	CONSTELLATION POWER-CRANE	ELECTRIC GENERATING STATION-FUEL BURNING (OIL/COAL) EQUIPMENT	COMAR 26.11.29 Fuel burning	7707	43
015-00202	CED ROCK SPRINGS, INC., Power Plant, CT	NATURAL GAS FIRED ELECTRIC GENERATING STATION	COMAR 26.11.29	30	1
019-00013	VIENNA POWER OPERATIONS, INC.	ELECTRIC GENERATING STATION-FUEL BURNING (OIL) EQUIPMENT	COMAR 26.11.29	110	1
021-00003	LEHIGH CEMENT-WOODSBORO	EXPANDED AGGREGATE PLANT	COMAR 26.11.29	168	1
025-00024	CONSTELLATION POWER-PERRYMAN	ELECTRIC GENERATING STATION-FUEL BURNING (NAT. GAS/OIL) EQUIPMENT	COMAR 26.11.29	305	0
031-00019	MIRANT-DICKERSON	ELECTRIC GENERATING STATION-FUEL BURNING (OIL/COAL) EQUIPMENT	COMAR 26.11.29	5663	47
033-00014	MIRANT-CHALK POINT	ELECTRIC GENERATING STATION-FUEL BURNING (GAS/OIL/COAL) EQUIPMENT	COMAR 26.11.29	14099	124
033-01827	SMECO-CHALK POINT	WILL COMBINE WITH MIRANT-CHALK POINT	COMAR 26.11.29	0	0
510-00006	CONSTELLATION POWER-WESTPORT	ELECTRIC GENERATING STATION-FUEL BURNING (NAT. GAS) EQUIPMENT	COMAR 26.11.29	1	0
005-00306	SOLO CUP OPERATING CORPORATION	PAPER CUP & PLATE, AND RELATED DISPOSABLE PRODUCTS	COMAR 26.11.19	8	25
015-00085	W.L. GORE-APPLETON SOUTH	PTFE COATING, LAMINATING, TREATING AND FIBER PRODUCTION	COMAR 26.11.19	1	0
015-00088	W.L. GORE-FAIRHILL	CARTRIDGE FILTER MANUFACTURING FACILITY	COMAR 26.11.19	1	0
015-00101	W.L. GORE-ELK MILLS I	GORE-TEX MANUFACTURING / R & D FACILITY	COMAR 26.11.19	4	2
015-00105	W.L. GORE-APPLETON NORTH	INDUSTRIAL PRODUCT MEMBRANE MANUFACTURING FACILITY	COMAR 26.11.19	1	0
015-00144	W.L. GORE-APPLETON EAST	INDUSTRIAL PRODUCTS MANUFACTURING FACILITY	COMAR 26.11.19	1	0

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
015-00150	W.L. GORE-ELK CREEK	POLYTETRAFLOUROETHYLENE (PTFE) COATING FACILITY	COMAR 26.11.19	4	2
015-00151	W.L. GORE-ELK MILLS V	GORE-TEX MANUFACTURING FACILITY	COMAR 26.11.19	3	10
033-00429	STONE INDUSTRIAL DIVISION	PAPER & PLASTIC TUBE WINDING FACILITY	COMAR 26.11.19.02	1	3
510-02244	VICTOR GRAPHICS, INC.	PRINTING FACILITY	COMAR 26.11.19.02	0	7
005-00148	U.S. CAN COMPANY-STEELTIN	DECORATIVE CAN MANUFACTURING FACILITY	COMAR 26.11.19.04	0	8
005-01040	CROWN CORK & SEAL USA, INC.	FOOD CAN MANUFACTURING PLANT	COMAR 26.11.19.04	3	100
025-00203	INDEPENDENT CAN COMPANY	CAN OR CAN PARTS MANUFACTURING FACILITY	COMAR 26.11.19.04	2	2
005-00097	SIGNODE EASTERN OPERATIONS	COIL COATING PLANT	COMAR 26.11.19.05	6	11
045-00082	SPARTEEN FCD	PLASTIC FILM MANUFACTURING PLANT	COMAR 26.11.19.07	12	29
003-01055	FORMICA CORPORATION	SOLID RESIN DECORATIVE SURFACE MANUFACTURING FACILITY	COMAR 26.11.19.07	0	52
005-02003	MID-ATLANTIC PACKAGING SUPPLY,	HEAT-SET WEB-FED FLEXOGRAPHIC PRINTING PRESSES (6-1459 & 6-2178)	COMAR 26.11.19.07	0	2
043-00183	AMCOR PACKAGING (USA), INC.	FLEXOGRAPHIC PRINTING PLANT	COMAR 26.11.19.07	1	32
510-00761	VAC PAC MANUFACTURING CO.,INC.	HEAT SET WEB FLEXOGRAPHIC PRESSES (6-1530)	COMAR 26.11.19.07	0	6
043-00206	FIL-TEC, INC.	BOND AND COAT THREAD	COMAR 26.11.19.07	0	19
031-00324	NATIONAL INSTITUTES OF HEALTH	B.MED. RESEARCH FUEL BURN	COMAR 26.11.19.08	87	2
005-01149	GAMSE LITHOGRAPHING CO., INC.	LITHOGRAPHIC & ROTOGRAVURE PRINTING OPERATIONS	COMAR 26.11.19.10	0	30
025-00219	AMERICAN COLOR GRAPHICS	FLEXOGRAPHIC PRINTING	COMAR 26.11.19.10	0	25
025-00355	MID ATLANTIC LABEL, INC.	FLEXOGRAPHIC PRINTING	COMAR 26.11.19.10	0	5
027-00080	CHESAPEAKE FINISHED METALS,INC	METAL COIL COATING	COMAR 26.11.19.10	3	5
003-00734	CENVEO-GLEN BURNIE	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	0	11
005-00384	AXALTO, INC.	PLASTIC CREDIT CARD MANUFACTURING PLANT	COMAR 26.11.19.11	0	4
005-00843	PORT CITY PRESS, INC.	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	1	3
019-00083	CENVEO-CAMBRIDGE	COMMERICAL LITHOGRAPHIC PRINTING FACILITY	COMAR 26.11.19.11	2	5
031-01680	SMITH LITHOGRAPH CORPORATION	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	1	18
033-00476	EDITORS PRESS, INC.	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	1	8
033-01511	PEAKE PRINTERS, INC.	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	0	12
033-01832	S & S GRAPHICS, INC.	COMMERICAL LITHOGRAPHIC PRINTING PLANT	COMAR 26.11.19.11	0	12
033-02234	CRAFTSMAN PRESS	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	2	17
043-00216	PHOENIX COLOR CORPORATION	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	0	64
043-00344	PHOENIX COLOR CORPORATION	PRINTING PLANT	COMAR 26.11.19.11	1	7

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
510-00202	INSL-X PRODUCTS CORPORATION	PAINT & STAIN REMANU	COMAR 26.11.19.11	0	6
510-02936	ROCK-TENN COMPANY	PRINTING OPERATIONS	COMAR 26.11.19.11	0	24
510-03242	CENVEO-BALTIMORE	LITHOGRAPHIC PRINTING	COMAR 26.11.19.11	1	23
510-03258	LUCAS-INSERTO Rx PRINTING CO.	NON-HEATSET FOUR COLOR WEB PRINTING PRESS	COMAR 26.11.19.11	0	5
003-00046	RAINBOW CLEANERS & UNIFORM	PETROLEUM SOLVENT & PERC DRY CLEANING FACILITY	COMAR 26.11.19.12	0	2
005-02220	ACN-BALTIMORE, LLC	DRUM RECLAMATION FURNACE (9-1211) & PAINT LINE (6-2811)	COMAR 26.11.19.13	2	3
005-02407	MIDDLE RIVER AIRCRAFT SYSTEMS	AEROSPACE PARTS MANU	COMAR 26.11.19.13	1	29
003-00250	NORTHROP GRUMMAN CORPORATION	ELECTRONIC SYSTEMS	COMAR 26.11.19.13	13	10
005-00958	DAP PRODUCTS, INC.	PAINT COATINGS & ADHESIVES PRODUCTION PLANT	COMAR 26.11.19.15	0	0
025-00006	CYTEC ENGINEERED MATERIALS, INC.	ADHESIVE MANUFACTURING	COMAR 26.11.19.15	4	84
025-00423	ALCORE, INC.	ALUMINUM HONEYCOMB CORE MANUFACTURING LINES	COMAR 26.11.19.15	1	8
027-00127	TATE ACCESS FLOORS, INC.	ACCESS FLOOR PANEL MANUFACTURING PLANT	COMAR 26.11.19.15	0	1
033-00096	SHERWIN WILLIAMS COMPANY-DURON	PAINT MANUFACTURING	COMAR 26.11.19.15	0	22
043-00167	RUST-OLEUM CORPORATION	PAINT MANUFACTURING	COMAR 26.11.19.15	0	17
043-00305	ENGINEERED POLYMER SOLUTIONS	RESIN MANUFACTURING	COMAR 26.11.19.15	4	37
510-00286	SHERWIN WILLIAMS COMPANY, THE	PAINT AND RESIN MANUFACTURING PLANT	COMAR 26.11.19.15	10	130
510-01056	LENMAR, INC.	PAINT MANUFACTURING PAINT	COMAR 26.11.19.15	0	30
510-01986	TNEMEC COMPANY, INC.	OIL & SOLVENT BASED CHEMICALLY CURED INDUSTRIAL PAINTS PLANT	COMAR 26.11.19.15	0	9
005-00979	AMERICAN YEAST CORPORATION	YEAST PRODUCTION PLANT	COMAR 26.11.19.17	7	29
005-01956	POLYSTYRENE PRODUCTS CO., INC.	EXPANDABLE POLYSTYRENE MOLDING OPERATION	COMAR 26.11.19.19	0	19
005-02305	POLYSTYRENE PRODUCTS COMPANY	EXPANDABLE POLYSTYRENE SHAPE MOLDING PRODUCTION (6-2395)	COMAR 26.11.19.19	1	28
510-03071	LIFE LIKE PRODUCTS	EXPANDABLE POLYSTYRENE FOAM MOLDING MANUFACTURING	COMAR 26.11.19.19	2	53
005-02075	EASTERN SANITARY LANDFILL	MUNICIPAL SOLID WASTE LANDFILL	COMAR 26.11.19.20	17	3
005-00236	SCHMIDT BAKING COMPANY	BAKERY	COMAR 26.11.19.21	2	24
011-00006	GENERAL MILLS BAKERIES & FOOD SERVICE	BREAD CRUMB MANUFACTURING FACILITY	COMAR 26.11.19.21	5	89
021-00234	ENTENMANN'S, INC.	BAKERY	COMAR 26.11.19.21	3	48
025-00286	FRITO-LAY, INC.	SNACK FOOD PRODUCTION FACILITY	COMAR 26.11.19.21	10	1
510-00191	LESAFFRE YEAST CORPORATION	YEAST MANUFACTURING PLANT	COMAR 26.11.19.21	5	174
510-00283	MID ATLANTIC BAKING COMPANY	BAKERY PLANT (8-0326)	COMAR 26.11.19.21	1	2

FACILITY #	OWNER NAME	DESCRIPTION	EXAMPLE APPLICABLE RACT	NO_x Tons/yr	VOC Tons/yr
510-00301	H & S BAKERY, INC.	BAKERY	COMAR 26.11.19.21	4	62
510-00582	SCHMIDT-HAUSWALD BAKERY	BAKERY	COMAR 26.11.19.21	1	41
510-01400	AUTOMATIC ROLLS OF BALTIMORE	BAKERY FACILITY	COMAR 26.11.19.21	1	7
510-00754	FLEISCHMANN'S VINEGAR	VINEGAR PRODUCTION PLANT	COMAR 26.11.19.22	0	47
043-00075	GARDEN STATE TANNING, INC.	LEATHER TANNING FACILITY	COMAR 26.11.19.24	8	85
001-00173	U.S. MARINE-CUMBERLAND I	FIBERGLASS REINFORCED PLASTIC BOAT MANUFACTURING PLANT	COMAR 26.11.19.26	0	98
001-00184	U.S. MARINE-CUMBERLAND II	FIBERGLASS REINFORCED PLASTIC BOAT MANUFACTURING PLANT	COMAR 26.11.19.26	0	97
043-00184	XERXES CORPORATION	FIBERGLASS REINFORCED PLASTIC LAMINATION PLANT (USTs)	COMAR 26.11.19.26	0	29
045-00110	SILVERTON MARINE CORPORATION	FIBERGLASS REINFORCED PLASTIC PARTS FOR MARINE VESSELS (6-0162)	COMAR 26.11.19.26	0	5
045-00134	U.S. MARINE-SALISBURY	FIBERGLASS REINFORCED PLASTIC BOAT MANUFACTURING PLANT	COMAR 26.11.19.26	0	29
005-00332	BWI SPARROWS POINT, LLC	SHIP REPAIR & RECYCLING FACILITY	COMAR 26.11.19.27	0	0
510-02871	DEXT COMPANY OF MARYLAND	BREAD & SNACK FOOD WASTE DRYING OPERATION TO ANIMAL FEED	COMAR 26.11.19.28	3	14
005-00146	(SEAGRAM AMERICAS)DIAGEO N. AMERICA	DISTILLED SPIRITS AGING, BLENDING & BOTTLING FACILITY	COMAR 26.11.19.29	2	160
015-00079	W.L. GORE-CHERRY HILL	PTFE PRODUCTS MANUFACTURING AND PROCESSING PLANT	COMAR 26.11.19.30	7	16
510-00073	FMC CORPORATION	HERBICIDE, PESTICIDE & CHEMICAL INTERMEDIATE MFG FACILITY	COMAR 26.11.19.30	120	9
510-00100	SASOL NORTH AMERICA, INC.	ORGANIC CHEMICAL PRODUCT PLANT	COMAR 26.11.19.30 & .09	142	24
510-00307	RHODIA, INC.	ORGANIC CHEMICAL PRODUCT PLANT	COMAR 26.11.19.30	3	2
015-00059	TERUMO-MEDICAL	MEDICAL EQUIPMENT MANUFACTURE	COMAR 26.11.19.31	0	22
015-00212	TERUMO-CARDIOVASCULAR	MEDICAL EQUIPMENT MANUFACTURE	COMAR 26.11.19.31	1	20

COMAR 26.11.06.06* -or other alternative standard

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230
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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

Kathy M. Kinsey
Deputy Secretary

Maryland Department of the Environment
Notice of Public Hearing on Air Quality Plan

The Maryland Department of the Environment (MDE) gives notice of a Public Hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard.

A public hearing will be held on:

September 27, 2011 at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 – First Floor Conference Room – 10:30 AM

The hearing will focus on State Implementation Plan revisions which include added information regarding existing Maryland RACT regulations for nitrogen oxides (NOx).

The Public Hearing will be held as required by federal law (Clean Air Act at 42 U.S.C. 7410 (a) and 40 CFR 51.102). Interested persons are invited to attend and express their views. After the Department considers the comments received, and revises the proposal if necessary, all related items will be submitted to the U.S. Environmental Protection Agency.

An electronic copy of the proposed revision will be available on the Maryland Department of the Environment's website at http://www.mde.state.md.us/programs/Air/AirQualityPlanning/Pages/programs/airprograms/air_planning/index.aspx. Note: the public library systems in Maryland can be used for Internet access to view the document. An electronic copy of the document can also be obtained via email by writing to Molla Sarros at msarros@mde.state.md.us.

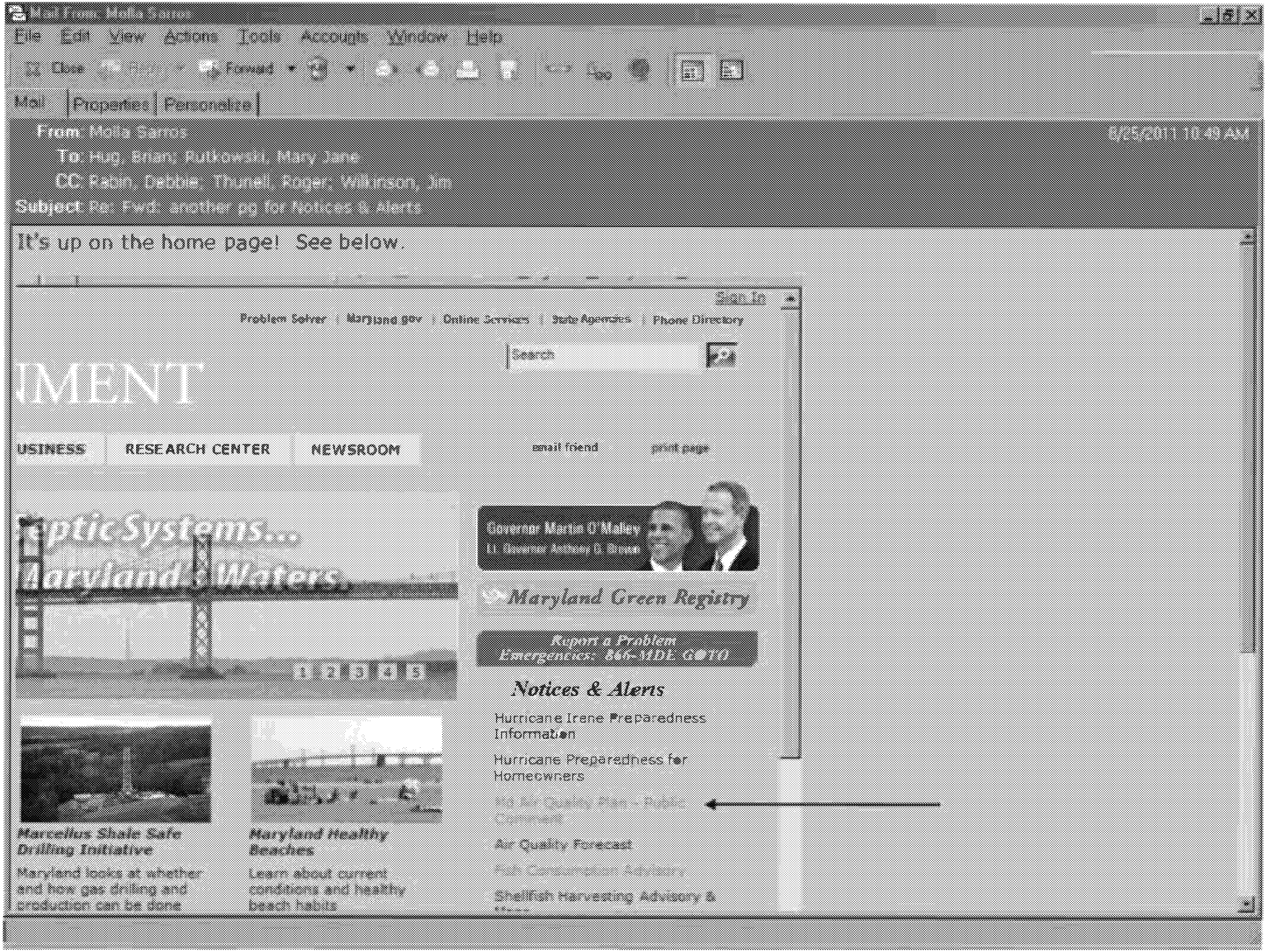
Copies of the document can also be viewed at the Maryland Department of the Environment Main Office, Air and Radiation Management Administration, 1800 Washington Boulevard, Baltimore, Maryland – Hard Copy Contact: Molla Sarros.

Written comments may be presented at the hearing, faxed to 410-537-4223, emailed to msarros@mde.state.md.us, or mailed to Molla Sarros, MDE ARMA, 1800 Washington Boulevard, Baltimore, MD, 21230. Comments must be received before the close of business on **September 27, 2011.**

Anyone needing special accommodations at a public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

For more information contact Molla Sarros, Natural Resources Planner, at (410) 537-4180. Toll free in Maryland call 1-(800) 633-6101 ext. 4180.

Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard, Ste. 730
Baltimore, Maryland 21230



Maryland Air Quality Plan Released for Public Comment

Baltimore, MD (August 24, 2011) –

Ensuring that air emissions within Maryland's borders are as low as possible continues to be a goal of the Maryland Department of the Environment (MDE). While the airborne transport of pollution into Maryland is the primary cause of Maryland's air pollution problems, ozone and fine particle pollution is exacerbated by local sources.

The MDE continues to make efforts to ensure that in-state emission sources are controlled in a manner that is both aggressive and equitable. One of the requirements of the Clean Air Act is that MDE periodically review our stationary sources to ensure that they are meeting the requirements of Reasonably Available Control Technology (RACT). RACT requires states with air quality problems to show that they are enforcing reasonable standards on their stationary sources.

The MDE is releasing the latest version of our RACT analysis titled the *State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07.*

The document is available for public comment through September 27, 2011, and interested persons can offer comments in writing, through the mail or e-mail, or in person at the public hearing.

Public Hearing will be held on September 27, 2011 at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 – First Floor Conference Room – 10:30 AM

For a copy of the draft document and further information please see the Maryland Department of the Environment Air Quality Planning Program Web page at http://www.mde.state.md.us/programs/Air/AirQualityPlanning/Pages/programs/airprograms/air_planning/index.aspx and the Department's hearing notices at http://www.mde.state.md.us/aboutmde/AboutMDEHome/Pages/aboutmde/reqcomments.aspx.

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MDE Public Meetings, Hearings and Request for Comments

» MDE Calendar

The complete listing of MDE public meetings and hearings is posted in the **MDE Calendar**. Please call or email contact person cited in the meeting details for any questions or to send a comment.

» Public Hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard.

A public hearing will be held on **September 27, 2011 at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 – First Floor Conference Room – 10:30 AM**.

The hearing will focus on State Implementation Plan revisions which include added information regarding existing Maryland RACT regulations for nitrogen oxides (NOx).

The Public Hearing will be held as required by federal law (Clean Air Act at 42 U.S.C. 7410 (a) and 40 CFR 51.102). Interested persons are invited to attend and express their views. After the Department considers the comments received, and revises the proposal if necessary, all related items will be submitted to the U.S. Environmental Protection Agency.

An electronic copy of the proposed revision will be available on the Maryland Department of the Environment's website at http://www.mde.state.md.us/programs/Air/AirQualityPlanning/Pages/programs/airprograms/air_planning/index.aspx. Note: the public library systems in Maryland can be used for Internet access to view the document. An electronic copy of the document can also be obtained via email by writing to Molla Sarros at msarros@mde.state.md.us.

Copies of the document can also be viewed at the Maryland Department of the Environment Main Office, Air and Radiation Management Administration, 1800 Washington Boulevard, Baltimore, Maryland – Hard Copy Contact: Molla Sarros.

Written comments may be presented at the hearing, faxed to 410-537-4223, emailed to msarros@mde.state.md.us, or mailed to Molla Sarros, MDE ARMA, 1800 Washington Boulevard, Baltimore, MD, 21230. Comments must be received before the close of business on **September 27, 2011**.

Anyone needing special accommodations at a public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

For more information contact Molla Sarros, Natural Resources Planner, at (410) 537-4180. Toll free in Maryland call 1-(800) 633-6101 ext. 4180.

» Public hearing concerning a proposed new air quality Regulation .27-1 under COMAR 26.11.19 Volatile Organic Compounds from Specific Processes. (See Technical Support Document)

The purpose of this action is to adopt the requirements of the EPA's Control Techniques Guidelines (CTG) standards and application methods for pleasure craft coating operations.

This action will be submitted to the U.S. Environmental Protection Agency (EPA) for approval as part of Maryland's State Implementation Plan.

The full text of the proposed action will appear in the Maryland Register and at http://www.dsd.state.md.us/mdregister/mdregister.aspx on **August 26, 2011.**

The proposed action and supporting documents are also available for review at the following locations: the Air and Radiation Management Administration; regional offices of the Department in Cumberland and Salisbury; all local air quality control offices; and local health departments in those counties not having separate air quality control offices.

A public hearing on the proposed action will be held on **September 27, 2011** at 10 a.m. at the Department of the Environment, 1800 Washington Boulevard, 1st Floor Conference Rooms, Baltimore, Maryland 21230-1720.

Interested persons are invited to attend and express their views. Comments may be mailed to Deborah Rabin, Regulations Coordinator, Air and Radiation Management Administration, Department of the Environment, 1800 Washington Boulevard, Suite 730, Baltimore, Maryland 21230-1720, or emailed to drabin@mde.state.md.us, or faxed to (410) 537-4223. Comments must be received not later than **September 27, 2011**, or be submitted at the hearing. For more information, call Deborah Rabin at (410) 537-3240.

Anyone needing special accommodations at a public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

» Maryland Department of the Environment Proposed Calendar Year 2011 Standard Permit Application Turnaround Times.

Please click here for more information.

Acrobat® Reader is required to view and print the PDF files. If you do not have it click on the icon to the right.

From: Mary Jane Rutkowski
To: Gibson, Lauren
Date: 8/24/2011 2:52 PM
Subject: Re: Calendar and Hearing notice for ARMA
Attachments: Mary Jane Rutkowski.vcf

Thanks Lauren!

Mary Jane Rutkowski
Air Quality Planning Program
Air & Radiation Management Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 710
Baltimore, Maryland 21230-1720
Phone: (410) 537-4163
Fax (410) 537-3391

"Science gives us knowledge and religion gives us meaning. Both are prerequisites of the decent existence." Michael Heller

>>> Lauren Gibson 8/24/2011 2:00 PM >>>
I have posted the hearing on the calendar.

Lauren Gibson
Graphics Specialist
MD Dept of the Environment
Information Management & Technology
1800 Washington Blvd.
Baltimore MD 21230
410-537-4124

>>> Mary Jane Rutkowski 8/24/2011 10:49 AM >>>
Dear Lauren,

Attached are the RACT SIP hearing notice, and the calendar notice for posting.

1. Please process the hearing notice for posting to the Hearings/Request for Comments page:
http://www.mde.state.md.us/aboutmde/AboutMDEHome/Pages/aboutmde/reqcomments.aspx

2. Please process the calendar notice for posting to the MDE Calendar page:
http://www.mde.state.md.us/aboutmde/MDECalendar/Pages/Calendar.aspx

Thanks!

Mary Jane Rutkowski
Air Quality Planning Program
Air & Radiation Management Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 710
Baltimore, Maryland 21230-1720
Phone: (410) 537-4163
Fax (410) 537-3391

"Science gives us knowledge and religion gives us meaning. Both are prerequisites of the decent existence." Michael Heller

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MDE Calendar

This site provides a listing of meetings, hearings, and other events pertinent to the functions of the Maryland Department of the Environment (MDE). Each scheduled meeting, hearing or event has a description, where at the minimum, the time and location are listed. Events that have been or will be cancelled or postponed are also noted.

Public hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard
Tuesday, September 27, 2011

State Board of Well Drillers Meeting
Wednesday, September 28, 2011

Aberdeen Proving Ground Restoration Advisory Board Meeting: Canal Creek, Graces Quarters, Other Aberdeen Areas 6 Groundwater site RAO Project update
Thursday, September 29, 2011

State Board of Environmental Sanitarians Meeting
Wednesday, October 05, 2011

Public Hearing for an Air Permit to Construct at the Alpha Ridge Landfill
Wednesday, October 05, 2011

Marcellus Shale Advisory Commission Meeting
Friday, October 07, 2011

Public Information Meeting for Proposed Response Action Plan for Nine Lots at Old Fairfield
Tuesday, October 11, 2011

Meeting of MDE Solid Waste Management Study Group
Wednesday, October 12, 2011

PTC Informational Meeting for installation at Aggregate Industries
Wednesday, October 12, 2011

Bay Restoration Fund Advisory Committee Meeting
Thursday, October 13, 2011

Public Hearing Regarding State Discharge Permit for ESAB Welding & Cutting Products
Tuesday, October 18, 2011

State Board of Waterworks and Waste Systems Operators Meeting
Thursday, October 20, 2011

State Board of Well Drillers Meeting
Wednesday, October 26, 2011

Public Hearing for Renewal Title V permit for American Yeast Co.
Thursday, October 27, 2011

Informational Meeting for Air Quality Permit to Construct for the Frederick Waste-to-Energy Projec
Tuesday, November 01, 2011

State Board of Environmental Sanitarians Meeting
Wednesday, November 02, 2011

Public Meeting for Spectron, Inc.
Tuesday, November 08, 2011

Meeting of MDE Solid Waste Management Study Group
Thursday, November 10, 2011

Public Hearing re: LaFarge Building Materials
Tuesday, November 15, 2011

State Board of Well Drillers Meeting
Wednesday, November 16, 2011

State Board of Waterworks and Waste Systems Operators Meeting
Thursday, November 17, 2011

State Board of Environmental Sanitarians Meeting
Wednesday, December 07, 2011

Meeting of MDE Solid Waste Management Study Group
Thursday, December 08, 2011

State Board of Well Drillers Meeting
Wednesday, December 14, 2011

State Board of Waterworks and Waste Systems Operators Meeting
Thursday, December 15, 2011

Monthly Meeting of the Board of Sanitarians
Wednesday, January 04, 2012

Monthly Meeting of the Board of Waterworks & Waste Systems Operators
Thursday, January 19, 2012

Monthly Meeting of the Board of Well Drillers
Thursday, January 26, 2012

Monthly Meeting of the Board of Sanitarians
Wednesday, February 01, 2012

Monthly Meeting of the Board of Waterworks and Waste Systems Operators
Thursday, February 16, 2012

Monthly Meeting of the Board of Well Drillers
Wednesday, February 22, 2012

Monthly Meeting of the Board of Sanitarians
Wednesday, March 07, 2012

Monthly Meeting of the Board of Well Drillers
Wednesday, March 21, 2012

Monthly Meeting of the Board of Waterworks and Waste Systems Operators
Thursday, March 22, 2012

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MDE Calendar Event

Date: **Tuesday, September 27, 2011**
Time: **10:30 AM**
Location: MDE, 1800 Washington Boulevard, 1st Floor Conference Rooms, Baltimore, Maryland 21230
Organizer: MDE/ARMA
Contact Name: Molla Sarros 410-537-4180
Description: Public hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard
Related URL:

Air and Radiation
Air Quality Compliance
Air Quality Monitoring
Air Quality Planning
Mobile Sources
Radiological Health
Air Quality Permits
Asbestos

Air Quality Planning Program

- State Implementation Plans
- Air Quality Presentations

State Implementation Plans

Maryland's air quality plans, also called state implementation plans, are designed to attain and maintain the National Ambient Air Quality Standards, and to prevent significant deterioration of air quality in areas cleaner than the standards.

Maryland's State Implementation Plans are viewable in Adobe Acrobat Reader (pdf) format. To view the documents, you will have to download the Adobe Acrobat Reader.

Document:
Maryland's 8-hour Ozone Reasonably Available Control Technology (RACT) State Implementation Plan, DRAFT 2011 Revision to SIP Number 06-07
Date: August 24, 2011
SIP Document (1,007 KB)

Document:
Letter to U.S. EPA certifying that MDE has the authority to implement, maintain and enforce the federal PM2.5 National Ambient Air Quality Standards NAAQS

Document:
Baltimore Nonattainment Area PM2.5 State Implementation Plan and Base Year Inventory
March 24, 2008

SIP Document (2377 KB)

Appendix A – Base Year Emission Inventory

- Appendix A-1: Base Year Emission Inventory Methodologies (2679 KB)
- Appendix A-2: Point Source Base Year Inventory (884 KB)
- Appendix A-3: Quasi-Point Source Base Year Inventory (30 KB)
- Appendix A-4: Area Source Base Year Inventory (148 KB)
- Appendix A-5: Mobile Source Base Year Inventory (362 KB)
- Appendix A-6: Nonroad Source Base Year Inventory (235 KB)

Appendix B – Projection Year Methodologies (194 KB)

Appendix C – Reasonably Available Control Measures (RACM) Analysis

- Appendix C-1: List of Potential RACM Control Measures & Analysis (998 KB)
- Appendix C-2: BMC Reduction Measures List & Analysis (85 KB)

Appendix D – Mobile Budget Documentation

- Appendix D-1: PM2.5 Precursor Significance Determination for the Baltimore, MD Nonattainment Area (123 KB)
- Appendix D-2: Baltimore Area Mobile Source Emissions Technical Support Document for the PM2.5 Attainment Plan (271 KB)
- Appendix D-3: MOBILE6.2 Input Parameter Summary (96 KB)
- Appendix D-4: MOBILE6.2 Sample Input Files (128 KB)
- Appendix D-5-1: Baltimore Area VMT and Emission Summary By Vehicle Type (22 KB)
- Appendix D-5-2: Baltimore Area VMT and Emission Summary By Functional Class (18 KB)
- Appendix D-5-3: Baltimore Area 2009 Annual PM2.5 Summary (21 KB)

Appendix E – Ozone Transport Commission MOU (113 KB)

Appendix F – Contingency Synopsis of the ASIP Sensitivity Study

- Appendix F-1: Synopsis of the ASIP PM2.5 Sensitivity Study and SO2/NOX Equivalency Ratios (83 KB)
- Appendix F-2: Data from the BOTW/VA CAIR Modeling Run for PM2.5 (34 KB)

Appendix G – Attainment Modeling and Weight of Evidence

- Appendix G-1: Conceptual Model (5094 KB)
- Appendix G-2: Modeling Domain Boundary (42 KB)
- Appendix G-3: Horizontal Grid Definitions for MM5 and CMAQ Modeling Domain (36 KB)
- Appendix G-4: Vertical Layer Definitions for MM5 and CMAQ Modeling Domain (179 KB)
- Appendix G-5: MM5 Model Configuration (61 KB)
- Appendix G-6: MM5 Model Performance Evaluation (7615 KB)
- Appendix G-7: SMOKE Processing Description and Configuration (1124 KB)
- Appendix G-8: CMAQ Configuration (78 KB)
- Appendix G-9: CMAQ Model Performance (20 KB)
- Appendix G-10: Additional Information on Design value Calculations (53 KB)
- Appendix G-11: Weight of Evidence Report
  - Appendix G-11-1: Report (7956 KB)
  - Appendix G-11-2: Report Appendices (67827 KB)

Document:
State Implementation Plan (SIP) for Annual Fine Particle (PM2.5) Standard and 2002 Base Year Inventory for the

Washington DC-MD-VA Nonattainment Area
Date: March 7, 2008
Click here to download

Document:
Washington County, MD PM2.5 State Implementation Plan and Base Year Inventory
February 29, 2008

SIP Document (2067 KB)

Appendix A – Base Year Emission Inventory

- Appendix A-1: Base Year Emission Inventory Methodologies (2679 KB)
- Appendix A-2: Point Source Base Year Inventory (73 KB)
- Appendix A-3: Quasi-Point Source Base Year Inventory (11 KB)
- Appendix A-4: Area Source Base Year Inventory (32 KB)
- Appendix A-5: Mobile Source Base Year Inventory (75 KB)
- Appendix A-6: Nonroad Source Base Year Inventory
  - Appendix A-6-1 (33 KB)
  - Appendix A-6-2 (15 KB)

Appendix B – Projection Year Methodologies (194 KB)

Appendix C – Reasonably Available Control Measures (RACM) Analysis (894 KB)

Appendix D – Mobile Budget Documentation

- Appendix D-1: 2008 RFP and 2009 Attainment Year Mobile Budget Methodology and Documentation (64 KB)
- Appendix D-2: Washington County Area: Mobile Source Emissions Technical Support Document February 2007 (256 KB)
- Appendix D-3: MOBILE6.2 Input Parameter Summary (94 KB)
- Appendix D-4: MOBILE6.2 Sample Input Files (127 KB)
- Appendix D-5-1: Washington County VMT and Emission Summary By Vehicle Type (39 KB)
- Appendix D-5-2: Washington County VMT and Emission Summary By Functional Class (26 KB)
- Appendix D-5-3: Washington County 2009 Annual PM2.5 Summary (15 KB)

Appendix E – Ozone Transport Commission MOU (113 KB)

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- Appendix F-2: Data from the BOTW/VA CAIR Modeling Run for PM2.5 (34 KB)

Appendix G – Attainment Modeling and Weight of Evidence

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- Appendix G-2: Modeling Domain Boundary (42 KB)
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- Appendix G-5: MM5 Model Configuration (61 KB)
- Appendix G-6: MM5 Model Performance Evaluation (7615 KB)
- Appendix G-7: SMOKE Processing Description and Configuration (1124 KB)
- Appendix G-8: CMAQ Configuration (74 KB)
- Appendix G-9: CMAQ Model Performance (20 KB)
- Appendix G-10: Additional Information on Design value Calculations (41 KB)
- Appendix G-11: Weight of Evidence Report
  - Appendix G-11-1: Report (KB)
  - Appendix G-11-2: Report Appendices (67827 KB)

Document:
Proposed Implementation, Maintenance, and Enforcement of the PM2.5 National Ambient Air Quality Standard State Implementation Plan
Date: February 15, 2008
Click here to download.

Document:
Implementation, Maintenance, and Enforcement Measures for the 8-Hour Ozone National Ambient Air Quality Standard State Implementation Plan (SIP)
Date: June 15, 2007
Click here to download.

Document:
Baltimore Nonattainment Area 8-hour Ozone State Implementation Plan and Base Year Inventory
June 15, 2007

SIP Document (6.7 MB)
Appendix A
- Appendix A2 (1.2 MB)
- Appendix A3 (429 KB)
- Appendix A4 (280 KB)
- Appendix A5 (710 KB)
- Appendix A6 (878 KB)

Appendix B (194 KB)
Appendix C (823 KB)
Appendix D (92 KB)
Appendix E
- Appendix E1 (330 KB)
- Appendix E2 (59 KB)

Appendix F
- Appendix F - Mobile Source Emission Technical Support Document (232 KB)

Appendix F - Input Parameter Summary (57 KB)
Appendix F - Input Files Sample (27 KB)
Appendix F - Summary Table (40 KB)
Appendix F - Emissions Summary (28 KB)
Appendix G
Appendix G1 (514 KB)
Appendix G2 (15 KB)
Appendix G3 (15 KB)
Appendix G4 (2.4 MB)
Appendix G5 (1.1 MB)
Appendix G6 (827 KB)
Appendix G7 (1.0 MB)
Appendix G8 (1.7 MB)
Appendix G9 (378 KB)
Appendix G10 (802 KB)
Appendix G11 (342 KB)
Appendix G12 (367 KB)
Appendix G13 (188 KB)
Appendix G14 (67 KB)
Appendix G15 (49 KB)
Appendix H
Appendix I (69 KB)

Document:
Cecil County, Maryland 8-hour Ozone State Implementation Plan and Base Year Inventory
June 15, 2007

SIP Document (5.4 MB)
Appendix A
Appendix A2 (118 KB)
Appendix A3 (35 KB)
Appendix A4 (112 KB)
Appendix A5 (129 KB)
Appendix A6 (382 KB)
Appendix B (194 KB)
Appendix C (220 KB)
Appendix D (83 KB)
Appendix E
Appendix E1 (328 KB)
Appendix E2 (59 KB)
Appendix F
Appendix F - Mobile Source Emission Technical Support Document (232 KB)
Appendix F - Input Parameter Summary (57 KB)
Appendix F - Input Files Sample (27 KB)
Appendix F - Summary Table (40 KB)
Appendix F - Emissions Summary (15 KB)
Appendix G
Appendix G1 (514 KB)
Appendix G2 (15 KB)
Appendix G3 (15 KB)
Appendix G4 (2.4 MB)
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Appendix G6 (827 KB)
Appendix G7 (1.0 MB)
Appendix G8 (1.7 MB)
Appendix G9 (378 KB)
Appendix G10 (802 KB)
Appendix G11 (342 KB)
Appendix G12 (367 KB)
Appendix G13 (188 KB)
Appendix G14 (67 KB)
Appendix G15 (86 KB)
Appendix H
Appendix I (79 KB)

Document:
State Implementation Plan (SIP) for 8-Hour Ozone Standard and 2002 Base Year Inventory for the Washington DC-MD-VA Nonattainment Area
May 23, 2007
Click here

Document:
Revision to Maryland's Transportation Conformity State Implementation Plan
November 9, 2006

SIP Document (71 KB)
Regulation (1,087 KB)
Regulation - Full Text (110 KB)

Document:
Maryland's 8-hour Ozone Reasonably Available Control Technology (RACT) State Implementation Plan
July 31, 2006

SIP Document (510 KB)
Appendix A (102 KB)
Appendix B (15 KB) RACT SIP Survey
Appendix C (333 KB) RACT and Major Sources

Document:
Redesignation Request for Kent and Queen Anne's Counties 8-hour Ozone Nonattainment Area
Date: March 15, 2006
Click here to download.

Document:
Maintenance Plan and 2002 Base Year Emission Inventory for the Kent and Queen Anne's Counties 8-hour Ozone Nonattainment Area
Date: March 15, 2006
Click here to download.

Document:
Revisions to Kent and Queen Anne's Counties 1-hour Ozone Maintenance Plan
Date: March 15, 2006
Click here to download.

Document:
Washington County 8-Hour Ozone Early Action Compact (EAC) State Implementation Plan: Air Quality Modeling Addendum

SIP Revision 04-10 - Addendum
Date: February 16, 2005
Click here to download.

Document:
Washington County 8-Hour Ozone Early Action Compact (EAC) State Implementation Plan
SIP Document: Executive Summary/Table of Contents/Chapters 1-8 (2.1 MB PDF file)

Appendix A (574 KB) Early Action Compact Agreement With Washington County
Appendix B (622 KB) EAC Guidance and Protocol Documents
Appendix C (526 KB) EAC Memorandums
Appendix D (36 KB) Control Measures Selected for Action Plan
Appendix E (7,135 KB) Comprehensive Analysis of Transportation Emission Reduction Measures
Appendix F (547 KB) Health and Ozone
Appendix G (249 KB) History of the Early Action Plan
Appendix H (1,866 KB) Regional Transport and 8-Hour Ozone
Appendix I (3,471 KB) Documentation of Public Process

Document:
SIP Revision 04-06 (Proposed) - Revision to the Washington Severe SIP: Implementation of Section 185 Fee Structure
Date: March 26, 2004
Click here to download.

Document:
SIP Revision 04-04 (Proposed) - Memorandum of Agreement (MOA) to Allow EPA to Grant the Separation of the Kent and Queen Anne's Counties 8-Hour Ozone Nonattainment Area from the Baltimore Region 8-Hour Ozone Nonattainment Area between U.S. EPA Region III and MDE
Date: February 25, 2004
Click here to download.

Document:
Modification to the Rate of Progress Plan for Cecil County: Revising Mobile Emission Estimates with Mobile6
Date: January 8, 2004
Click here to download.

Document:
Redesignation Request for Kent and Queen Anne's Counties Ozone Nonattainment Area
Date: December 18, 2003
Click here to download.

Document:
Maintenance Plan for the Baltimore Carbon Monoxide Attainment Area
Date: December 15, 2003
Click here to download.

Document:
Demonstrating Rate of Progress for 2002 and 2005; Revision to 1990 Base Year Emissions; and Severe Area Attainment Demonstration for the WASHINGTON DC-MD-VA Nonattainment Area
Date: December 17, 2003
Click here to download.

Document:
Revised Carbon Monoxide Maintenance Plan and Revised 1990 Carbon Monoxide Base Year Emissions Inventory for the Washington DC-MD-VA Nonattainment Area
Date: December 17, 2003
Click here to download.

Document:
2002 Maryland Air Quality Report - Status Report and Long-Term Trends
Date: December 3, 2003
Click here to download the report.
Click here for historical air quality data.

Document:
Modification to the Rate of Progress Plan for the Baltimore Region: Revising Mobile Emission Estimates with Mobile6
Date: October 27, 2003
Click here to download.

Appendix A - Mobile6 Documentation

Document:
Proposed State Implementation Plan (SIP) - "Severe Area SIP" - Demonstrating Rate of Progress for 2002 and 2005, Revision to 1990 Base Year Emissions, and Severe Area Attainment Demonstration for the WASHINGTON DC-MD-VA NONATTAINMENT
Date: June 2, 2003
SIP Document: Executive Summary/Table of Contents/Chapters 1-12 (1.2 MB PDF file)

Appendix A (72 KB PDF file) - Membership Rosters for the Metropolitan Washington Air Quality Committee (MWAQC) and its Technical Advisory Committee and Air Quality Public Advisory Committee

Appendix B (3.7 MB PDF file) - MOBILE6 Inventories and Documentation

Appendices C-F (1.2 MB PDF file)

Appendix C - Round 6.2 Cooperative Forecast Projections: Area and Nonroad Inventories and Projections

Appendix D - Draft Round 6.3 Cooperative Forecast Projections: Area and Nonroad Inventories and Projections

Appendix E - Point Source Inventories and Projections

Appendix F - Use of NOx Substitution in Rate of Progress; RACT Fix-Up Documentation

Appendices G-K (3.1 MB PDF file)

Appendix G - Emission Reduction from Transportation Control Measures

Appendix H - Severe Area Plan Commitments

Appendix I - Contingency Plan Commitments; Emissions Reductions from Phase II RFG Controls; Emissions Reductions from Selected Contingency Measures

Appendix J - EPA Voluntary Measures Guidance; Allowable Tonnage from Voluntary Measures; Voluntary Measure Documentation

Appendix K - Information Related to Public Hearings, Hearing Notices, Comments Received and Response to Comments

Appendix L (11 KB PDF file) - Analysis of Potential Stationary Source RACM Measures for the Metropolitan Washington Region's Severe Area SIP

Appendix M (40 KB PDF file) - Analysis of Potential Area Source RACM Measures for the Metropolitan Washington Region's

Severe Area SIP

Appendix N (138 KB PDF file) - Analysis of Potential Non-Road Source RACM Measures for the Metropolitan Washington Region's Severe Area SIP

Appendix O (285 KB PDF file) - Analysis of Potential Mobile Source RACM Measures for the Metropolitan Washington Region's Severe Area SIP

Document:
Modification to the Phase II Attainment Plan for the Baltimore and Cecil County Nonattainment Areas: Revising the Mobile Source Emission Budgets using Mobile 6
Date: May 21, 2003
Click here to download.

Document:
Reasonably Available Control Measure (RACM) Analysis for Cecil County
Date: July 18, 2001
Click here to download.

Document:
Reasonably Available Control Measure (RACM) Analysis for the Baltimore Region
Date: July 6, 2001
Click here to download.

Document:
Modification to the Phase II Attainment Plan for the Baltimore Region: Revising the Mobile Source Emission Budgets, Adding Tier 2 Standards
Date: November 6, 2000
Click here to download.

Document:
Modification to the Phase II Attainment Plan for Cecil County: Revising the Mobile Source Emission Budgets, Adding Tier 2 Standards
Date: November 9, 2000
Click here to download.

Document:
Maryland Commitment letter to EPA for Baltimore region
Date: December 17, 1999
Click here to download.

Document:
Maryland Commitment letter to EPA for Cecil County
Date: February 2, 2000
Click here to download.

Document:
Modification to the Phase II Attainment Plan for the Baltimore Nonattainment Area and Cecil County: Revising the Mobile Source Emission Budgets
Date: November 9, 1999
Click here to download.

Document:
Phase II Attainment Plan for the Baltimore Nonattainment Area and Cecil County
Date: April 24, 1998
Click here to download.

Document:
Technical Support Document for the Phase II Attainment Plan for the Baltimore Region
Date: June 29, 2001
Click here to download.

Document:
Phase I Attainment Plan for the Baltimore Nonattainment Area and Cecil County
Date: April 24, 1998
SIP Document: Executive Summary, Chapters 1-9, and References

Appendix A: EPA Policy Memorandum

Appendix B: Modifications and Projections to the 1990 Base Year

Appendix C: Post-1996 Target Level Calculation Following EPA Guidance

Appendix D: Nonroad Emission Reductions

Appendix E: Emission Reductions from Control Measures Included in the 15% RPP

Appendix F: The OTC NOx Emission Reduction MOU and Calculation of NOx Emission Reductions from Stationary Sources

Appendix G: Nitrogen Oxides Substitution

Appendix H: Revisions to the 15% Rate of Progress Plan

Document:
1990 Greenhouse Gas Inventory
Date:April, 2001
Click here to download.

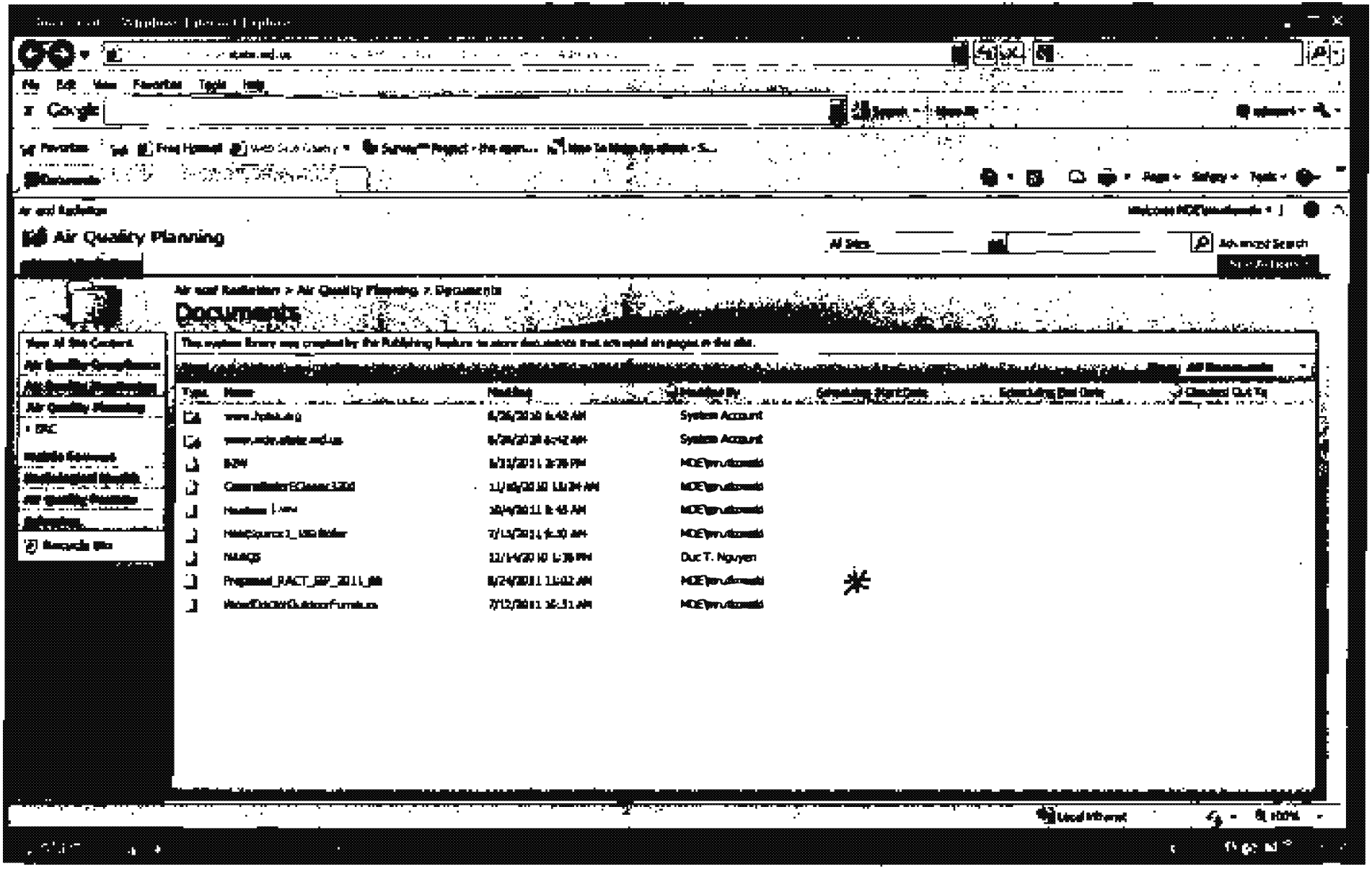
Air Quality Presentations

Document:
Air Quality Planning in Maryland
Date: July 21, 2005
Click here to download.

Document:
Basics on Ozone Transport
Date: July 21, 2005
Click here to download.

Document:
Air Quality 101
Date: July 21, 2005
Click here to download.

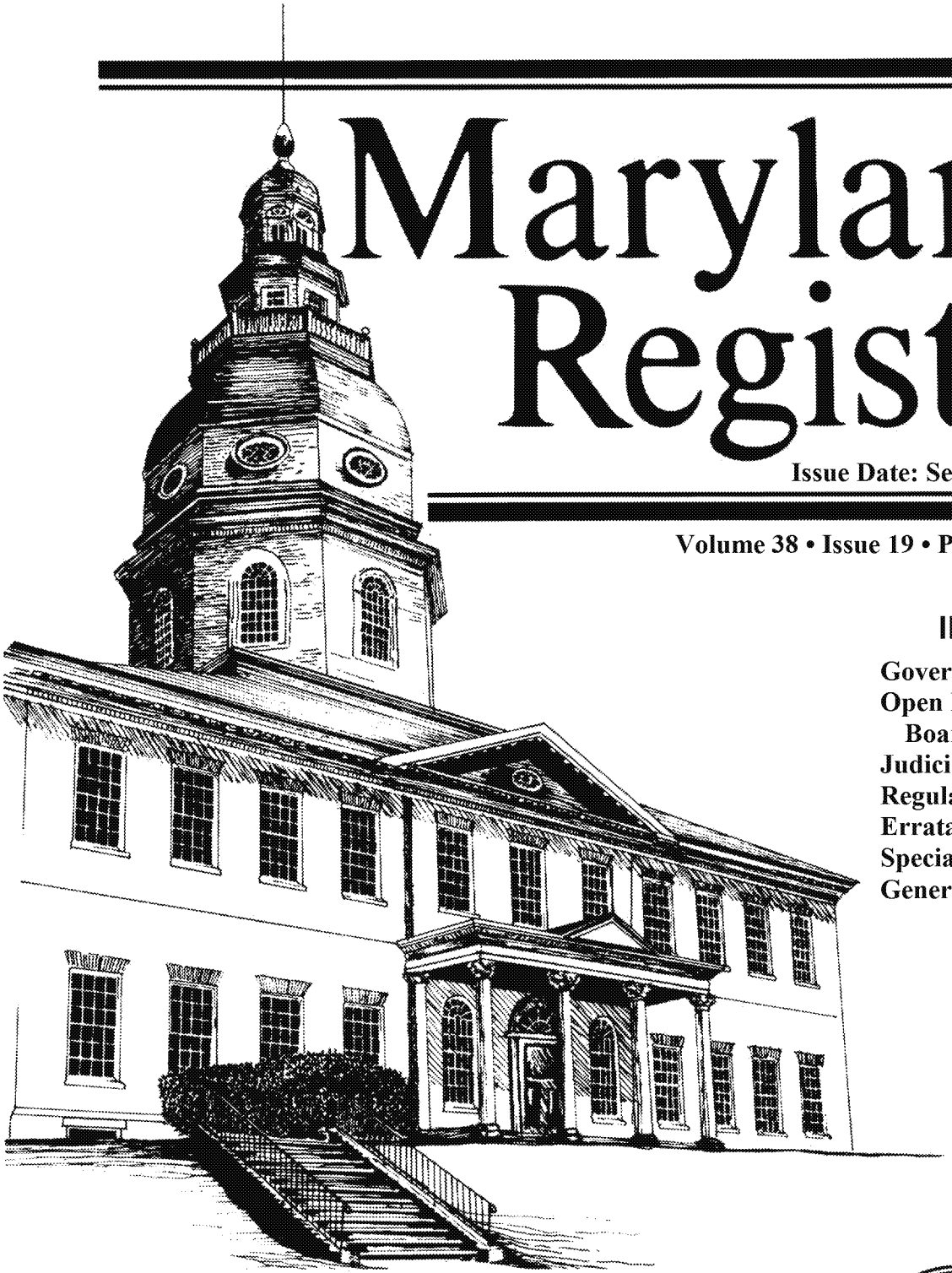
Additional Links
Proposed Action for Distributed Generation
National Ambient Air Quality Standards
Emission Reduction Credits
WILMAPCO Transportation Plan



Maryland Register

Issue Date: September 9, 2011

Volume 38 • Issue 19 • Pages 1119—1180



IN THIS ISSUE

Pursuant to State Government Article, §7-206, Annotated Code of Maryland, this issue contains all previously unpublished documents required to be published, and filed on or before August 22, 2011, 5 p.m.

Pursuant to State Government Article, §7-206, Annotated Code of Maryland, I hereby certify that this issue contains all documents required to be codified as of January August 22, 2011.

Brian Morris
Acting Administrator, Division of State Documents
Office of the Secretary of State

MARYLAND INSTITUTE FOR EMERGENCY MEDICAL SERVICES SYSTEMS (MIEMSS)

Subject: Public Meeting
Date and Time: September 16, 2011, 10 a.m. — 12 p.m.
Place: 653 W. Pratt St., Ste. 508, Baltimore, MD
Add'l. Info: The EMS Provider Review Panel meets regularly on the 3rd Friday of every other month.
Contact: Leandrea Gilliam (410) 706-4449

[11-19-13]

BOARD OF EXAMINING ENGINEERS

Subject: Public Meeting
Date and Time: October 18, 2011, 10 a.m. — 12 p.m.
Place: 500 N. Calvert St., Baltimore, MD
Contact: Gae Herzberger (410) 230-6163

[11-19-33]

DEPARTMENT OF THE ENVIRONMENT/AIR AND RADIATION MANAGEMENT ADMINISTRATION

Subject: Notice of Public Hearing on Air Quality Plan
Date and Time: September 27, 2011, 10:30 a.m.
Place: Department of the Environment, 1800 Washington Blvd., Baltimore, MD
Add'l. Info: The Maryland Department of the Environment (MDE) gives notice of a Public Hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard.

A public hearing will be held on:

September 27, 2011, at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 — First Floor Conference Room — 10:30 a.m. The hearing will focus on State Implementation Plan revisions which include added information regarding existing Maryland RACT regulations for nitrogen oxides (NO_x).

The Public Hearing will be held as required by federal law (Clean Air Act at 42 U.S.C. 7410(a) and 40 CFR 51.102). Interested persons are invited to attend and express their views. After the Department considers the comments received, and revises the proposal if necessary, all related items will be submitted to the U.S. Environmental Protection Agency.

An electronic copy of the proposed revision will be available on the Maryland Department of the Environment's website at http://www.mde.state.md.us/programs/Air/AirQualityPlanning/Pages/programs/airprograms/air_planning/index.aspx. Note: the public library systems in Maryland can be used for Internet access to view the document. An electronic copy of the document can also be obtained via email by writing to Molla Sarros at msarros@mde.state.md.us.

Copies of the document can also be viewed at the Maryland Department of the Environment Main Office, Air and Radiation Management Administration, 1800 Washington Boulevard, Baltimore, Maryland — Hard Copy Contact: Molla Sarros.

Written comments may be presented at the hearing, faxed to 410-537-4223, emailed to msarros@mde.state.md.us, or mailed to Molla Sarros, MDE ARMA, 1800 Washington Boulevard, Baltimore, MD, 21230. Comments must be received before the close of business on September 27, 2011.

Anyone needing special accommodations at a public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

For more information contact Molla Sarros, Natural Resources Planner, at (410) 537-4180. Toll free in Maryland call 1-(800) 633-6101, ext. 4180, Maryland Department of the Environment, Air and Radiation Management Administration, 1800 Washington Boulevard, Ste. 730, Baltimore, Maryland 21230
Contact: Molla Sarros (410) 537-4180

[11-19-42]

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Subject: Public Meeting
Date and Time: September 19, 2011, 4:30 — 6:30 p.m.
Place: Dept. of Health and Mental Hygiene, 201 W. Preston St., Lobby Rm. L-1, Baltimore, MD
Add'l. Info: The Maryland Advisory Council on Physical Fitness
Contact: Erin Penniston (410) 767-6783

[11-19-41]

DEPARTMENT OF HEALTH AND MENTAL HYGIENE/MARYLAND BOARD OF PHYSICIANS

Subject: Public Meeting
Date and Time: September 28, 2011, 9 — 10 a.m.
Place: 4201 Patterson Ave., Rms. 108/109, Baltimore, MD
Add'l. Info: Appropriate auxiliary aids services provided for qualified individuals upon request. Call Ellen D. Smith at (410) 764-2477.
Contact: Tammy Austin (410) 764-4769

[11-19-17]

BOARD OF HEATING, VENTILATION, AIR-CONDITIONING, AND REFRIGERATION CONTRACTORS (HVACR)

Subject: Public Meeting
Date and Time: October 12, 2011, 9:30 a.m.
Place: 500 N. Calvert St., 3rd Floor Conf. Rm., Baltimore, MD
Contact: Steve Smitson (410) 230-6169

[11-19-32]

BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS

Subject: Public Meeting
Date and Time: September 29, 2011, 1:30 p.m.
Place: 500 N. Calvert St., 3rd Fl. Conf. Rm., Baltimore, MD
Contact: Pamela J. Edwards (410) 230-62623

[11-19-40]

MARYLAND STATE LOTTERY COMMISSION

Subject: Public Meeting
Date and Time: September 22, 2011, 10 a.m. — 12 p.m.
Place: Montgomery Park Business Center, 1800 Washington Blvd., Ste. 330, Baltimore, MD
Contact: Marie A. Torosino (410) 230-8970

[11-19-43]

MARYLAND HEALTH CARE COMMISSION

Subject: Public Meeting
Date and Time: September 15, 2011, 1 p.m.
Place: Maryland Health Care Commission, 4160 Patterson Ave., Conf. Rm. 100, Baltimore, MD
Add'l. Info: Individuals requiring special accommodations are requested to contact Valerie Wooding at (410) 764-3460, or the Department of Health and Mental Hygiene TTY at (410) 383-7755, not later than 20 days before the meeting to make arrangements.
Contact: Valerie Wooding (410) 764-3460

[11-19-02]

From: Molla Sarros
To: Ali.Mirzakhalili@state.de.us; cecily.beall@dc.gov; jeepps@state.pa.us;...
CC: Carroll, Randall; Fernandez.Cristina@epa.gov; Franks, Diane; Hug, Bri...
Date: 8/25/2011 3:42 PM
Subject: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan
Attachments: HearingNotice_draft_2011_08_19#2_letterhead2.pdf

EMAIL Notice

Attached is the following public hearing notice:

Public Hearing on State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07

The Maryland Department of the Environment (MDE) gives notice of a Public Hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard.

A public hearing will be held on:

September 27, 2011 at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 – First Floor Conference Room – 10:30 AM

The hearing will focus on State Implementation Plan revisions which include added information regarding existing Maryland RACT regulations for nitrogen oxides (NOx).

The Public Hearing will be held as required by federal law (Clean Air Act at 42 U.S.C. 7410 (a) and 40 CFR 51.102). Interested persons are invited to attend and express their views. After the Department considers the comments received, and revises the proposal if necessary, all related items will be submitted to the U.S. Environmental Protection Agency.

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Copies of the document can also be viewed at the Maryland Department of the Environment Main Office, Air and Radiation Management Administration, 1800 Washington Boulevard, Baltimore, Maryland – Hard Copy Contact: Molla Sarros.

Written comments may be presented at the hearing, faxed to 410-537-4223, emailed to msarros@mde.state.md.us, or mailed to Molla Sarros, MDE ARMA, 1800 Washington Boulevard, Baltimore, MD, 21230. Comments must be received before the close of business on September 27, 2011.

Anyone needing special accommodations at a public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

For more information contact Molla Sarros, Natural Resources Planner, at (410) 537-4180. Toll free in Maryland call 1-(800) 633-6101 ext. 4180.

Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard, Ste. 730
Baltimore, Maryland 21230

Message Id: 4E566A48.F03 : 122 : 61488
Subject: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan
Created By: MSarros@mde.state.md.us
Scheduled Date:
Creation Date: 8/25/2011 3:29 PM
From: Molla Sarros

Recipients

Recipient	Action	Date & Time	Comment
FIELD_OFFICES_PO.FIELD_OFFICES	Transferred	8/25/2011 3:29 PM	
To: Allegany County Environmental Health Director (AL Co Env Health Director)			
To: Anne Arundel County Environmental Health Director (AA Co Env Health Director)			
To: Baltimore City Environmental Health Director (BA Cty Env Health Director)			
To: Baltimore County Environmental Health Director (BA Co Env Health Director)			
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To: Talbot County Environmental Health Director (TA Co Env Health Director)			
To: Washington County Environmental Health Director (WA Co Env Health Director)			
To: Wicomico County Environmental Health Director (WI Co Env Health Director)			
To: Worcester County Environmental Health Director (WO Co Env Health Director)			
POMAIL2.MDEDOM	Delivered	8/25/2011 3:29 PM	
CC: Brian Hug (bhug)	Read	8/25/2011 3:29 PM 9/26/2011 6:03 PM	
CC: Debbie Rabin (drabin)	Read	8/25/2011 3:47 PM 9/26/2011 10:21 PM	
CC: Diane Franks (dfranks)		9/28/2011 3:47 PM	
CC: Jim Wilkinson (jwilkinson)	Read	8/25/2011 3:32 PM	
CC: Molla Sarros (MSarros)	Read	8/25/2011 3:32 PM 9/27/2011 2:58 PM	
CC: Randall Carroll (rcarroll)	Read	8/31/2011 2:22 PM 9/27/2011 5:38 PM	
CC: Randy Mosier (rmosier)	Read	8/26/2011 7:39 AM 9/27/2011 6:36 PM	
CC: Roger Thunell (rthunell)	Read	8/25/2011 3:29 PM 9/27/2011 7:59 PM	

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POMAIL2.MDEDOM	8/25/2011 3:29 PM	mde.state.md.us

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MESSAGE	5014	8/25/2011 11:29 AM
TEXT.htm	7571	8/25/2011 3:29 PM

Options

Auto Delete:	No
Concealed Subject:	No
Expiration Date:	None
Notify Recipients:	Yes
Priority:	Standard
Reply requested by	None
Security:	Standard
To Be Delivered:	Immediate

From: "Epps, Joyce" <jeepps@pa.gov>
To: Molla Sarros <MSarros@mde.state.md.us>
Date: 8/25/2011 4:14 PM
Subject: RE: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan

I am writing to acknowledge receipt of the Maryland Department of the Environment's public hearing notice concerning the proposed revision to Maryland's State Implementation Plan for the Reasonably Available Control Technology (RACT) requirements for the 1997 8-hour ozone standard. Thanks!

Joyce E. Epps| Director, Bureau of Air Quality
PA Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street | Harrisburg, PA 17105-8468
Phone: 717.787.9702 | Fax: 717.772.3415
www.depweb.state.pa.us<http://www.depweb.state.pa.us/>

From: Molla Sarros [mailto:MSarros@mde.state.md.us]
Sent: Thursday, August 25, 2011 3:42 PM
To: cecily.beall@dc.gov; mgdowd@deq.virginia.gov; Ali.Mirzakhalili@state.de.us; Epps, Joyce; John.A.Benedict@wv.gov
Cc: Fernandez.Cristina@epa.gov; Brian Hug; Diane Franks; Debbie Rabin; Jim Wilkinson; Molla Sarros; Randall Carroll; Randy Mosier; Roger Thunell
Subject: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan

EMAIL Notice

Attached is the following public hearing notice:

Public Hearing on State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07

The Maryland Department of the Environment (MDE) gives notice of a Public Hearing concerning proposed revisions to the Maryland Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 1997 8-hour Ozone Standard.

A public hearing will be held on:

September 27, 2011 at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 – First Floor Conference Room – 10:30 AM

The hearing will focus on State Implementation Plan revisions which include added information regarding existing Maryland RACT regulations for nitrogen oxides (NOx).

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Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard, Ste. 730
Baltimore, Maryland 21230

From: Molla Sarros
To: All County Health Officers
CC: Carroll, Randall; Franks, Diane; Hug, Brian; Mosier, Randy; Rabin, D...
Date: 8/25/2011 3:33 PM
Subject: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan
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Priority:	Standard
Reply requested by	None
Security:	Standard
To Be Delivered:	Immediate

From: Molla Sarros
To: All County Environmental Health Directors
CC: Carroll, Randall; Franks, Diane; Hug, Brian; Mosier, Randy; Rabin, D...
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Concealed Subject:	No
Expiration Date:	None
Notify Recipients:	Yes
Priority:	Standard
Reply requested by	None
Security:	Standard
To Be Delivered:	Immediate

Opening Remarks

Public Hearing on State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07

Date: September 27, 2011

Randall Carroll, Hearing Officer

Maryland Department of the Environment, Molla Sarros

If the court reporter would turn on the equipment, we will begin. Good morning. On behalf of the Maryland Department of the Environment, Air and Radiation Management Administration, I would like to welcome everyone present to this public hearing. This public hearing is being held pursuant to federal law found at 42 U. S. C. § 7410(a) and 40 CFR Part 51.102.

Notice of this public hearing has appeared on the home page and calendar and public meetings pages of the Maryland Department of the Environment web site since August 25, 2011.

My name is Randall Carroll. I am a Natural Resources Planner in the Air and Radiation Management Administration's Air Quality Planning Program. I will serve as hearing officer this morning.

First, I would like to ask all in attendance to please sign in at the back, if you haven't already done so. This will help us to keep an accurate record of the people who participated in our proceedings here today. Also, a full copy of the proposed Reasonably Available Control Technology State Implementation Plan and additional support material are available on the back table for your information.

This hearing is related to the State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP 06-07. This plan revision is a comprehensive document that details Maryland's implementation of the Reasonably Available Control Technology (RACT) requirements of the Clean Air Act for the 0.08 ppm ozone National Ambient Air Quality Standard (NAAQS).

The hearing will proceed in the following order. First, Molla Sarros, a Natural Resources Planner with the Air Quality Planning Program of the Air and Radiation Management Administration will read the Department's statement into the record.

After Ms. Sarros is finished reading the Department's statement, I will first call on any elected official or government official who wants to make a statement.

Then, I will call upon anyone else who indicated on the sign-in sheet that he or she would like to make a statement.

When giving your statement, please come up to the table, identify yourself and your affiliation, and give your statement loudly and clearly so the court reporter is sure to catch your words. Hearing procedure does not call for question and answer sessions. Statements recorded at this hearing event will be answered in writing and published with the final State Implementation Plan document.

Are there any procedural questions?

(Once all questions have been taken -- if there are any -- you are ready to begin.)

If the court reporter would begin, then we will go on record to receive comment. Ms. Sarros will proceed with the Department's statement. Again, there are copies on the back table you may use to read along.

(While Molla reads her statement you get up and walk to the back and pick up the sign in sheets. You are looking to see who said they would like to make

a comment. When Molla has finished her presentation, you thank her and look to call on any elected officials who wanted to make a statement first. If there are no elected officials, you call on the first person that wanted to comment.)

I will now call on _____.

(After calling on all those who wanted to make a statement say the following:)

Now is there anyone who would like to make a statement, but did not indicate so on the sign-in sheet?

(If no one wants to make statement, say:)

No one has indicated that they wish to make a statement. Is there anyone who would now like to make a statement, even if they did not indicate so, on the sign-in sheets?

(After all statements have been presented, say:)

Let the record reflect that a statement has been taken from all who wish to make one. This will conclude this public hearing. Let the record reflect that it is now **(State the correct time)** o'clock, and this hearing on the State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation

Plan, 2011 Revision to SIP Number 06-07, now officially stands closed. The record for public comment on the State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07 will end at the close of business today, September 27, 2011.

PUBLIC HEARING

WHAT TO SAY IF NOBODY SHOWS FOR THE HEARING

- **WAIT AT LEAST 30 MINUTES BEFORE YOU DO ANYTHING !!!**

IF THE COURT REPORTER WOULD PLEASE TURN ON THE NECESSARY EQUIPMENT. LET THE RECORD SHOW THAT the time is now **(State the correct time)** o'clock on September 27, 2011. This hearing was scheduled for a 10:30 am start time. There are currently no persons in the audience wishing to make any statements on the record so we request that the court reporter please enter the hearing statement into the record at this time. This public hearing is now closed. The record for public comment on the State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07 will end at the close of business today, September 27, 2011.

Statement of the Air and Radiation Management Administration
Maryland Department of the Environment
For the Public Hearing Concerning
State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision
Held on September 27, 2011

Good Morning. My name is Molla Sarros. I am a Natural Resources Planner in the Planning and Policy Division, Air Quality Planning Program of the Air & Radiation Management Administration, Maryland Department of the Environment.

This public hearing is related to the proposed revised air quality plan titled ***State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07.***

This public hearing is being held pursuant to federal law found at 42 U.S.C. § 7410(a) and 40 CFR Parts 51.102.

- Notice of this public hearing has appeared on the home page, calendar, and public meetings pages of the Maryland Department of the Environment Web site since August 25, 2011.

Notice of this public hearing also appeared in the Maryland Register on September 9, 2011.

Copies of each of the public hearing notices and the Proposed State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07, will be part of the formal hearing record.

Access to the proposed document was made available via the Web site of the Maryland Department of the Environment. Hard copies were made available upon request at the Maryland Department of the Environment. Electronic copies were also made available via email if requested.

The purpose of this hearing is to provide the public with an opportunity to formally comment on the proposed document.

Summary of Proposed Reasonably Available Control Technology State Implementation Plan

This document is a revised and updated copy of the Reasonably Available Control Technology State Implementation Plan, or "RACT SIP," that Maryland submitted, in 2006, for the entire state. The purpose of this modification to the 2006 RACT SIP is to add further detail to the analyses of the existing Maryland regulations for control of nitrogen oxides (NO_x) from stationary sources.

In April 2004, EPA designated 126 areas of the country as "nonattainment" under the 8-hour ozone National Ambient Air Quality Standards (NAAQS). Maryland has three moderate nonattainment areas: the Baltimore Nonattainment Area; the Washington D.C. Nonattainment Area; and the Philadelphia

Nonattainment Area, which includes Cecil County, Maryland. Kent and Queen Anne's Counties, Maryland, were classified as a marginal nonattainment area and have since been redesignated as attainment. Washington County, Maryland was classified as a basic nonattainment area as part of the Early Action Compact program and since has been redesignated as attainment. All other remaining Maryland Counties are part of the Ozone Transport Region (OTR).

Under the Clean Air Act, EPA requires moderate and worse nonattainment areas and all areas that are part of an ozone transport region to implement RACT controls on major stationary sources. The EPA defines RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility" (44 FR 53761 and 53762, September 17, 1979). The Clean Air Act requires RACT controls for major stationary sources of both NO_x and Volatile Organic Compounds (VOCs), the precursors to ozone. Maryland is required to implement RACT throughout the state. Maryland certifies through this SIP that it meets the Clean Air Act RACT requirements for Maryland major sources of NO_x and VOCs for the 8-hour ozone standard.

Consideration of Comments

The Department will consider all pertinent comments, and revise the proposed plan if necessary, before making a final decision to adopt the plan and submit it to the U.S. Environmental Protection Agency for approval as a Maryland State Implementation Plan Revision. Written comments may be presented at this hearing or by the close of business today. The 30-day public comment period that began on August 25, 2011 for receipt of all comments to the plan will close at the end of business today, September 27, 2011.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

AIR AND RADIATION MANAGEMENT ADMINISTRATION

PUBLIC HEARING

The hearing in the above matter commenced on Tuesday, September 27, 2011, at the MDE Headquarters, Montgomery Park, 1800 Washington Boulevard, Baltimore, Maryland.

BEFORE: RANDALL CARROLL, Hearing Examiner

Reported by: Linda Metcalf

A P P E A R A N C E S

ON BEHALF OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT:

RANDALL CARROLL
Hearing Examiner
Planning and Policy Division
Air Quality Planning Program
Air and Radiation Management Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 730
Baltimore, Maryland 21230

MOLLA SARROS
Natural Resources Planner
Planning and Policy Division
Air Quality Planning Program
Air and Radiation Management Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

I N D E X

PROCEEDINGS

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MR. CARROLL: Good morning. If the court reporter would please turn on the necessary equipment. Let me introduce myself. I am Randall Carroll, Hearing Examiner, here at the Maryland Department of the Environment.

Let the record reflect that the time is now 11:14 on September 27th, 2011. This hearing was scheduled for a 10:30 start time. The lobby of the Maryland Department of the Environment and the hearing room have been checked to determine whether or not anyone of the public appeared and was present to make and present testimony or statements at this hearing. There are no persons in the audience wishing to make any statements on the record at this time.

Let me introduce the representative for the Maryland Department of the Environment. If you would, please?

MS. SARROS: Good morning. My name is Molla Sarros. I'm a Natural Resources Planner in the Planning and Policy Division, Air Quality Planning Program of the

Air and Radiation Management Administration, Maryland Department of the Environment.

Since no one is present at today's hearing, as indicated, I would like to enter my hearing statement into the record. Thank you.

Statement of the Air and Radiation Management Administration Maryland Department of the Environment For the Public Hearing Concerning State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision Held on September 27, 2011

Good Morning. My name is Molla Sarros. I am a Natural Resources Planner in the Planning and Policy Division, Air Quality Planning Program of the Air & Radiation Management Administration, Maryland Department of the Environment.

This public hearing is related to the proposed revised air quality plan titled ***State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07.***

This public hearing is being held pursuant to federal law found at 42 U.S.C. § 7410(a) and 40 CFR Parts 51.102.

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Notice of this public hearing also appeared in the Maryland Register on September 9, 2011.

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Access to the proposed document was made available via the Web site of the Maryland Department of the Environment. Hard copies were made available upon request at the Maryland Department of the Environment. Electronic copies were also made available via email if requested.

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In April 2004, EPA designated 126 areas of the country as "nonattainment" under the 8-hour ozone National Ambient Air Quality Standards (NAAQS). Maryland has three moderate nonattainment areas: the Baltimore Nonattainment Area; the Washington D.C. Nonattainment Area; and the Philadelphia Nonattainment Area, which includes Cecil County, Maryland. Kent and Queen Anne's Counties, Maryland, were classified as a marginal nonattainment area and have since been redesignated as attainment. Washington County, Maryland, was classified as a basic nonattainment area as part of the Early Action

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The Department will consider all pertinent comments, and revise the proposed plan, if necessary,

before making a final decision to adopt the plan and submit it to the U.S. Environmental Protection Agency for approval as a Maryland State Implementation Plan Revision. Written comments may be presented at this hearing or by the close of business today. The 30-day public comment period that began on August 25, 2011, for receipt of all comments to the plan will close at the end of business today, September 27, 2011.

MR. CARROLL: Thank you. It is now 11:15. This public hearing is closed. The record for the public comment on the State of Maryland 8-hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07 will end at the close of business today, September 27th, 2011. Thank you.

(Whereupon, the hearing was concluded).

CERTIFICATE OF COURT REPORTER

I, Linda Metcalf, do hereby certify that the foregoing transcription was reduced to typewriting via audiotapes recorded by me; that I am neither counsel for, nor related to, nor employed by any of the parties to the case in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

Linda Metcalf

LINDA METCALF,

Court Reporter

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION MANAGEMENT ADMINISTRATION

SUBJECT: Public Hearing - Proposed State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07

DATE: September 27, 2011

Name (please print)	Signature	Address	City and Zip Code	Organization or Affiliation	Do You Wish To Testify?

No one showed up

Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

September 7, 2011

Ms. Molla Sarros
Natural Resources Planner, Air Quality Planning Program
Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard
Baltimore, MD 21230

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: MD20110906-0697
Project Description: Draft State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07; add to regulations to control nitrogen oxides emissions from stationary sources: Public hearing: September 27, 2011
Project Location: Maryland
Clearinghouse Contact: Bob Rosenbush

Dear Ms. Sarros:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments.

Notice of your application is being provided to State and local public officials through the ***Intergovernmental Monitor***, which is a database of projects received by the State Clearinghouse for Intergovernmental Assistance. This information may be viewed at http://planning.maryland.gov/emircpublic/ . The project has been assigned a unique State Application Identifier that should be used on all documents and correspondence.

All MIRC requirements have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04-.06) and this concludes the review process for the above referenced project. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at **brosenbush@mdp.state.md.us**. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR

cc: Kathleen Blinebury - U.S. Environmental Protection Agency

11-0697_NM.NEW.doc

From: Molla Sarros
To: clearinghouse@mdp.state.md.us
Date: 8/25/2011 3:36 PM
Subject: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan
Attachments: ClearinghouseLetter_final.pdf; Intro&Background_Draft_RACTSIP_2011_08_02_FINALForReal.pdf

Dear Ms. Janey:

Attached for your information is a copy of Maryland Department of the Environment's letter to you regarding the draft *State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07.* A public hearing regarding this plan will be held on September 27, 2011.

Also attached are the Introduction and Background to the document.

If I can provide further information, please contact me at 410-537-4180.

Sincerely,
Molla Sarros

Molla K. Sarros, MPH, RS
Natural Resources Planner
Maryland Dept. of the Environment (MDE)
Air and Radiation Management Administration
Air Quality Planning Program
1800 Washington Blvd., Suite 730
Baltimore MD 21230-1720

410-537-4180 FAX -4223
1-800-633-6101
e-mail: msarros@mde.state.md.us

Message Id: 4E566C08.F03 : 122 : 61488
Subject: MD Reasonably Avail. Control Technology (RACT) State Implementation Plan
Created By: MSarros@mde.state.md.us
Scheduled Date:
Creation Date: 8/25/2011 3:36 PM
From: Molla Sarros

Recipients

Recipient	Action	Date & Time	Comment
mdp.state.md.us	Transferred	8/25/2011 3:37 PM	

To: clearinghouse@mdp.state.md.us (clearinghouse)

Post Offices

Post Office	Delivered	Route
mdp.state.md.us		mdp.state.md.us

Files

File	Size	Date & Time
ClearinghouseLetter_final.pdf	696981	8/25/2011 3:19 PM
Intro&Background_Draft_RACTSIP_2011_08_02_FINALForReal.pdf	341457	8/25/2011 1:44 PM
MESSAGE	1750	8/25/2011 11:36 AM
TEXT.htm	1380	8/25/2011 3:36 PM

Options

Auto Delete: No
Concealed Subject: No
Expiration Date: None
Notify Recipients: Yes
Priority: Standard
Reply requested by None
Security: Standard
To Be Delivered: Immediate

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101• www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

Kathy M. Kinsey
Deputy Secretary

AUG 25 2011

Linda C. Janey, J.D.
Assistant Secretary for Clearinghouse and Communications
Clearinghouse Review Unit
Maryland State Clearinghouse for Intergovernmental Assistance
Maryland Office of Planning
301 West Preston Street
Baltimore MD 21201

Dear Ms. Janey:

I am enclosing a copy of the Introduction and Background of the draft *State of Maryland 8-Hour Ozone Reasonably Available Control Technology State Implementation Plan, 2011 Revision to SIP Number 06-07.* This document revises and adds to information included on Maryland regulations for control of nitrogen oxides (NO_x) emissions from stationary sources. Note that because of the large size of the full document, the entire document may be viewed at the website link below:

http://www.mde.state.md.us/programs/Air/AirQualityPlanning/Pages/programs/airprograms/air_planning/index.aspx

A public hearing on the draft document will be held on Tuesday, September 27, 2011 at 10:30 am at the Department of the Environment, 1800 Washington Boulevard, Baltimore, Maryland 21230 – First Floor Conference Room. The official close of the comment period occurs at the end of the business hours on September 27, 2011.

The hearing will be held as required by federal law (Clean Air Act at 42 U.S.C. 7410 (a) and 40 CFR 51.102). If you have any comments on this draft document, please call me at (410) 537-4180.

Sincerely,

Molla Sarros

Molla Sarros, Natural Resources Planner
Air Quality Planning Program
Air and Radiation Management Administration

Enclosures

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

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Lt. Governor

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Secretary

Kathy M. Kinsey
Deputy Secretary

PUBLIC COMMENT

A public hearing for the Maryland Reasonably Available Control Technology (RACT) Air Quality Plan was scheduled and held at the Maryland Department of the Environment headquarters in Baltimore, MD on September 27, 2011 at 10:30 am.

At that time, the public was given the opportunity to personally appear and express any concern with the *State of Maryland 8-Hour Ozone Reasonably Available Control Technology (RACT) State Implementation Plan, Revision to SIP Number 06-07.* This SIP was released for public comment and review on August 25, 2011.

Prior to this hearing, the public was urged to express their concerns via the standard U.S. Postal Service mail or by email submission. Maryland reviewed each written mail or email comment received regarding the SIP.

Maryland received comments from only one source, the Environmental Protection Agency (EPA). These comments were minimal and not substantive and did not require new public notice or reopening of the public comment period. Maryland made minor revisions to the SIP based on the EPA comments. These changes are reflected within the State of Maryland RACT SIP.

EPA Comments on
Proposed State of Maryland Reasonably Available Control Technology
State Implementation Plan

1. Page 8, Section 2, first paragraph and last sentence, the "t" in Transport in the last sentence should be capitalized.

2. Page 11, Table 1, first column and last row of the table the word "Subsection" should be Regulation.

3. Page 39, under the Current Control Technology section a semi colon is missing from the end of #1.

4. Page 56, subsection 3.2, second paragraph, first sentence, the unit parts per million "ppm" is missing from the 0.08.

5. Page 57, Section 5, first paragraph, last sentence, makes reference to an appendix that contains the copy of a survey, for clarification it should be noted that this is Appendix B.

6. Page 58, Section 5, last paragraph, last sentence, makes reference to an appendix that contains the copies of the RACT/BACT Clearinghouse Data sheets, for clarification it should be noted that this is Appendix A.